

# IBQ101/IBQ102

Hand-Held  
Frequency Counter

Users Manual

手持式频率计 用户手册

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Congratulations on your purchase of **IBQ101**  
**(2)** Hand-Held Frequency Counter. Before  
Operating the frequency counter, please read this  
manual thoroughly.

Make sure that the following accessories are  
supplied with your frequency counter:

- Antenna (1)
- AC Power Adapter (1)

Please contact the sales agent in case of  
accessory missing.

## **1. Introduction**

Easy to operate, reliable in quality, and small  
in size, **IBQ101(2)** hand-held frequency  
counter is a super compact frequency measuring  
instrument.

## **2. Features**

- Multi-Function LCD Display
- 9-Digit Display
- Analog bar and Digit 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  
screen indicates the present function of the 3 keys

**[LIGHT]** : Function used to turn on or turn 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 IBQ102)

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 10Hz - 100MHz 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 "0" 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 lower 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.

#### **(9) 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 -40dBm~+15dBm. The 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**

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.

## **5. Warranty and Service**

The warranty time is one year. The damage caused by any of the following is not covered under the warranty: Damage caused by using the ordinary battery, damage caused by improper use, damage caused by revising, and damage caused by accidents.

## 6. Specifications

Model	IBQ101	IBQ102	
Range	50MHz-2.6GHz	10Hz-100MHz	50MHz-2.6GHz
Amplifier	50 ohm	1 Meg ohm	50 ohm
Impedance	50 ohm	1 Meg ohm	50 ohm
	VSWR<2:1	30pF	VSWR<2:1
Features	RF signal strength	RF signal strength(50MHz-2.6GHz)	
	Screen Holding	Screen Holding	
	Save	Save	
	View	View	
	Battery Indicator	Battery Indicator	
Sensitivity	<5mV@100MHz	<30mV@10Hz-	<5mV@100MHz
	<5mV@400MHz	50MHz	<5mV@400MHz
	<15mV@1GHz	<35mV@50MHz-	<15mV@1GHz
		100MHz	
Gate	0.1ms	0.01 s	0.1ms
	0.1s	0.1 s	0.1s
	1s	1 s	1s
Time Base	<+/-30ppm	<+/-5ppm	
LSD	100Hz/1s	1Hz /1s (10Hz-100MHz)	
		100Hz /1s (50MHz-2.6GHz)	
Battery	3 X AAA Ni-MH		
Power	5VDC 1A		
Cabinet	ABS		
Size	85mm (H)55mm(D)24mm(W)		
ANT	(UHF)		