USER'S MANUAL

Protek M733

RF POWER METER

The instruction of PROTEK M733(RF Power Meter) is subject to change without a notice due to its improvement. Please contact PROTEK if you find inconsistency in the manual..

Ver. 2.0

Copyright

Revision History

Date	Version	Changes
03/2007	Original Version 1.0	
03/2007	Version 1.1	Revision contents
04/2007	Version 1.2	Revision contents
03/2008	Version 2.0	Revision contents and inscription of specification amended

1. Overview

PROTEK M733 is a portable cost-effective RF Power meter. When measuring RF power, users can replace its battery easily and if there is not enough battery power, this device is able to alarm automatically. Frequency range is from 10MHz to 2.9GHz and PROTEK M733 can measure the average watts of RF signals from 2mW to 500mW. Also, all the measured data can be properly displayed in the LCD screen by auto-scale and selecting unit functions. Users can decide to hold the measured data in the screen by pushing the "Hold" button or run the data. To protect PROTEK M733 from high input power, it can detect high input power and alarm it to users.

Figure 1 illustrates functions and connections of PROTEK M733

RF Connector

RF signal measuring connector

LCD Screen

All the measured data, units, battery alarm, and Hold function are displayed.

Meter ZERO Button

Initialization button

Meter HOLD Button

All the measured data can be held temporarily

Power ON/OFF Button

Meter UNIT Button

Selecting four units (mW, dBm, mV, and dBmV)

Figure 1. Functions and connections of PROTEK M733

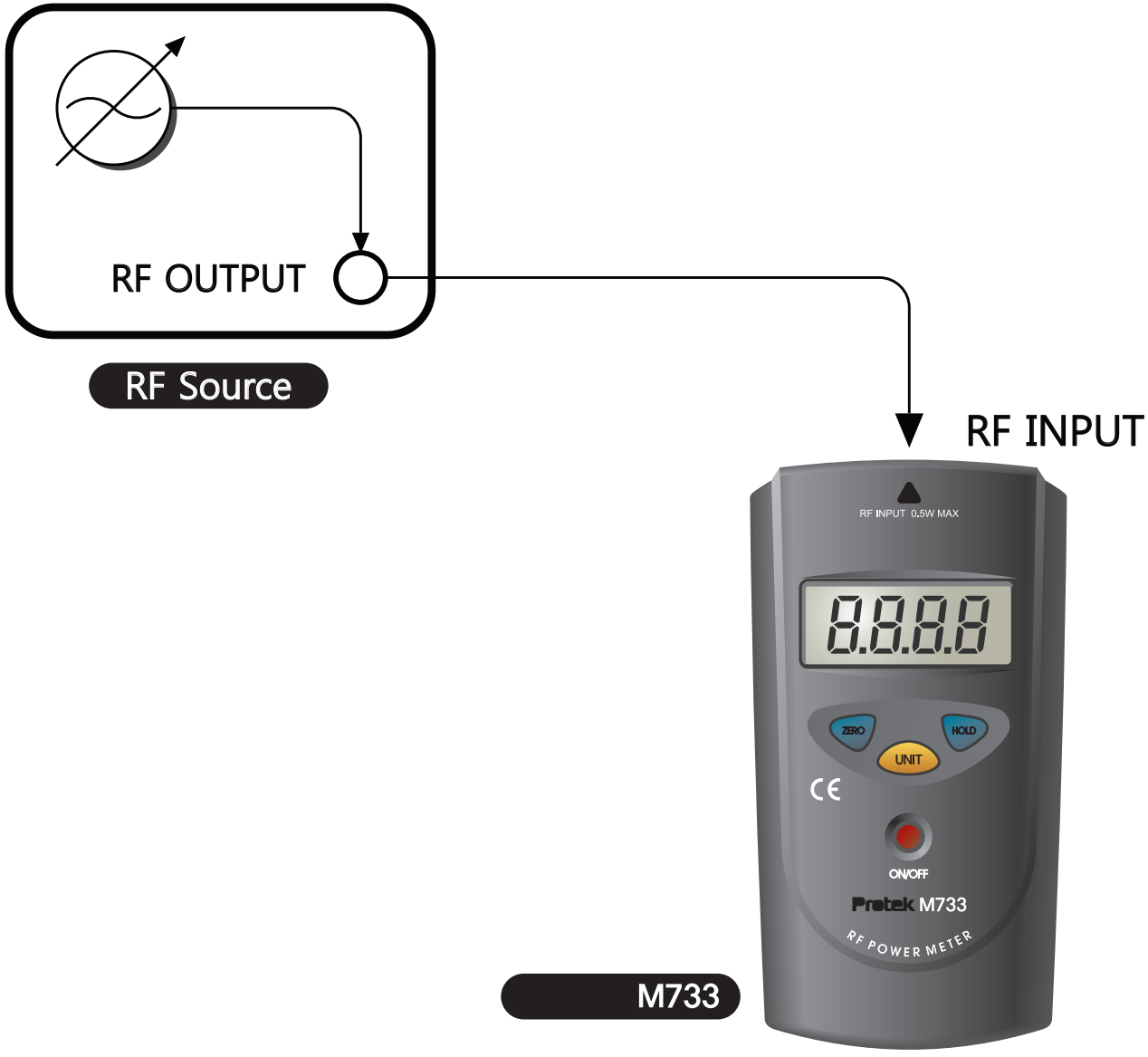


Figure 2. General setups

2. Features

l PROTEK M773 is a cost-effective, high-end portable RF Power Meter.

l PROTEK M773 is using common batteries and light and easy to carry.

l Unlike other RF Power Meters, it is convenient to measure watts because there is no power sensor.

l Measurable average Watts range of RF signals: 2mW ~ 500mW

l Measurable Frequency Range: 10MHz~2.9GHz

l Measured data display: Auto-Scale Function

l Support HOLD/RUN Function

l Support initialization Function (Meter Zero)

l Support Unit Select Function (mW, dBm, mV, and dBmV)

l Support "LPI" Alarm

l Support "HPI" Alarm

l Support "LO BAT" Alarm

ATTENTION

Please read the followings

l Please do not input over 500mW(1/2 W) of RF Watts. The damage by this case cannot be covered by the product warranty.

l When exchanging the batteries, please check the electrode of new batteries. If they are not correct, PROTEK M733 will not work properly.

l Avoid severe shocks to affect the performance of PROTEK M733 and handle it with care.

l Be careful of static electricity when using PROTEK M773

l Please do not put a conductor into connectors.

l Please use correct connectors and cables. (RF Input, N Type, 50 ohm)

1. Usage

A. Connect cables to PROTEK M733

B. Push the "power On/Off" button

C. Initialize PROTEK M733 by pushing the "Zero" button before the input RF signals.

D. The default unit is mW. To use other units, please push the "UNIT" button

E. Refer to Figure 3 about LCD output information

F. If the measured data in mV are higher than 1999, a dot between the first two digits will blink. For example, if the measured value is 2500mV, then 250 will be displayed and a dot will blink between 2 and 5 so users can treat this 2.5V or 2500mV.

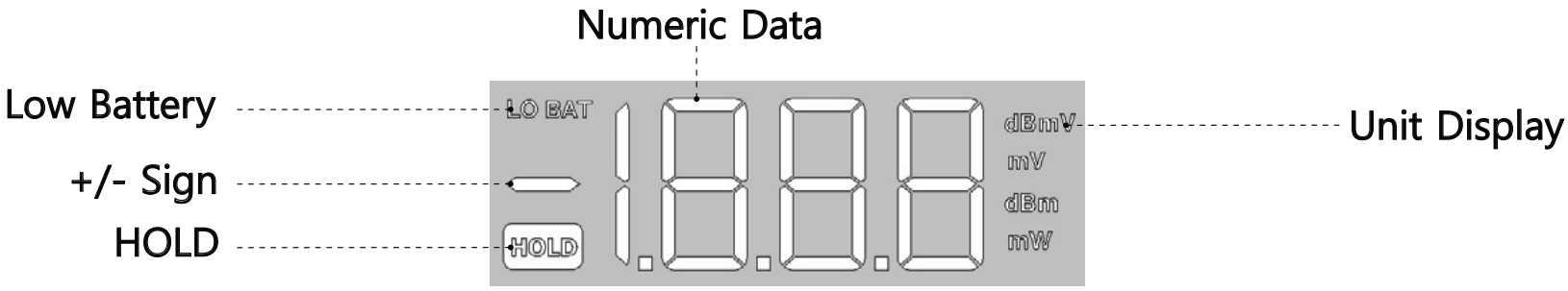
G. If the input RF signals are over 500mW, then HPI (High Power Input) alarm will be displayed irrespective of the measured data.

H. When measuring in dBm and dBmV, if the data is below +0.5mW, then PROTEK M773 will alarm "Low Power Input," however, when in mW and mV, PROTEK M773 accepts - values. Therefore, LPI alarm will not go off.

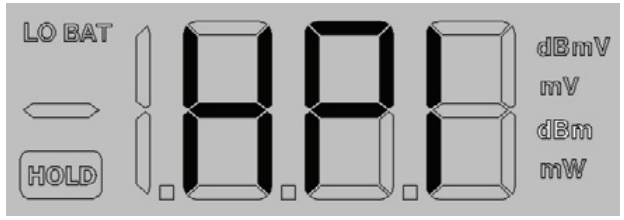
I. If users want to hold the final measured data, push the "Hold" button. In this case, "HOLD" icon will be displayed on the screen. If users want to go on measuring, then simply push the "HOLD" button again.

J. If "LO BAT" sign is shown on the screen, turn PROTEK M773 off and replace the batteries.

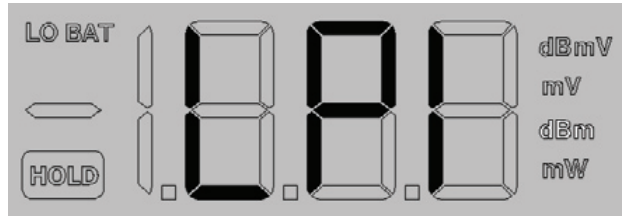
K. When measuring different signals continuously, please initialize PROTEK M733.



(a) LCD 출력



"HPI" (High Power Input ; 대전력 입력)
at All Units(mW, mV, dBm, and dBmV)



"LPI" (High Power Input ; 대전력 입력)
at All Units(mW, mV, dBm, and dBmV)

(b) 알림 정보 지원

그림 3. LCD 출력정보

2. Exchange Battery

A. Check if PROTEK M733 is off. If it is on, push the on/off button.

B. Unscrew the bolt of the backside of PROTEK M733 using a screwdriver.

C. Open the battery cover.

D. Remove two batteries (DC 9V) and place new batteries carefully checking their electrode.

E. After closing the battery cover, tighten the bolt using a screwdriver.
(Be careful not to tighten the bolt too firmly, otherwise it might wear out the screwdriver and bolt)

1. Filter Test

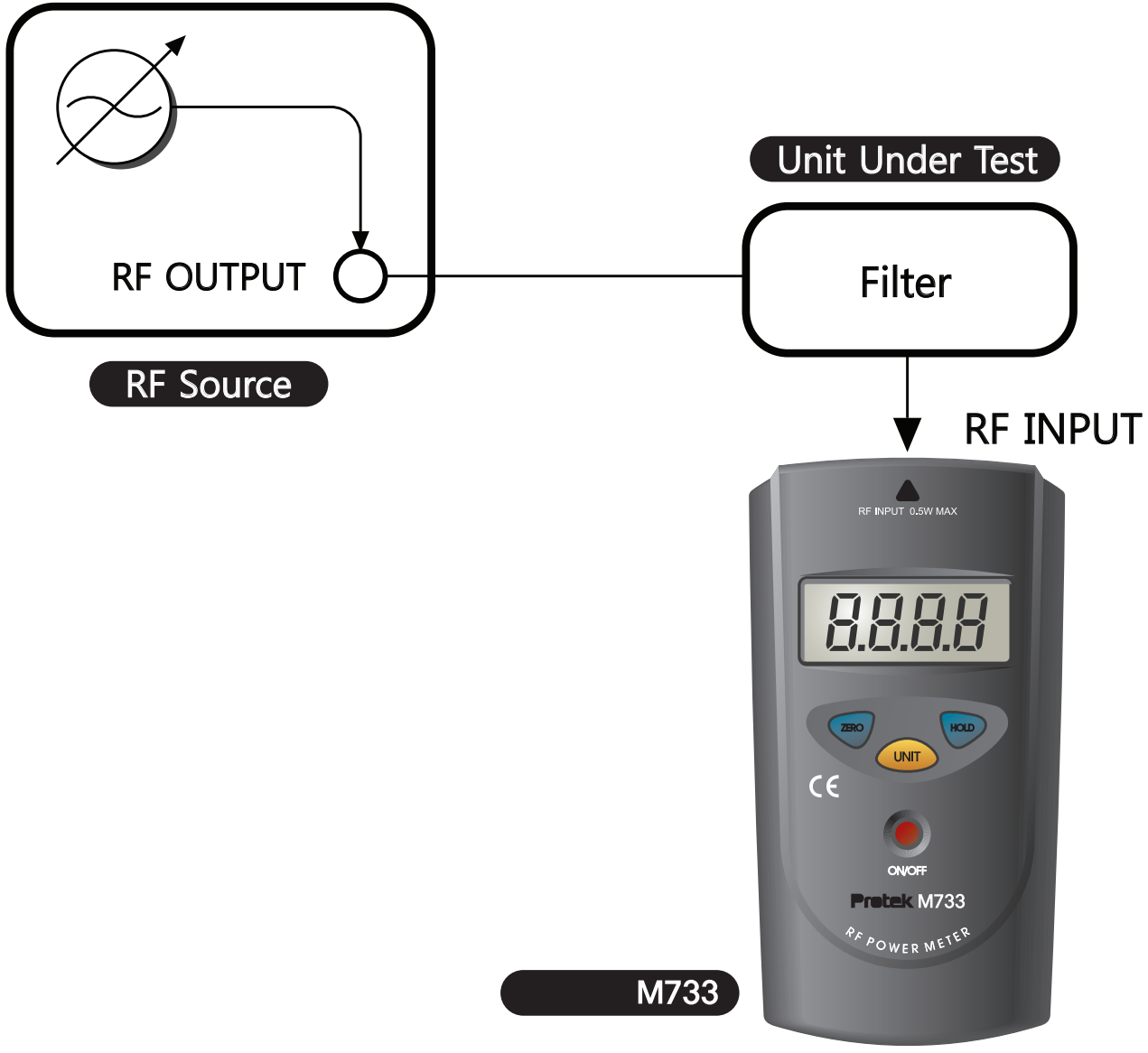


Figure 4. Filter Test

2. Amplifier Test

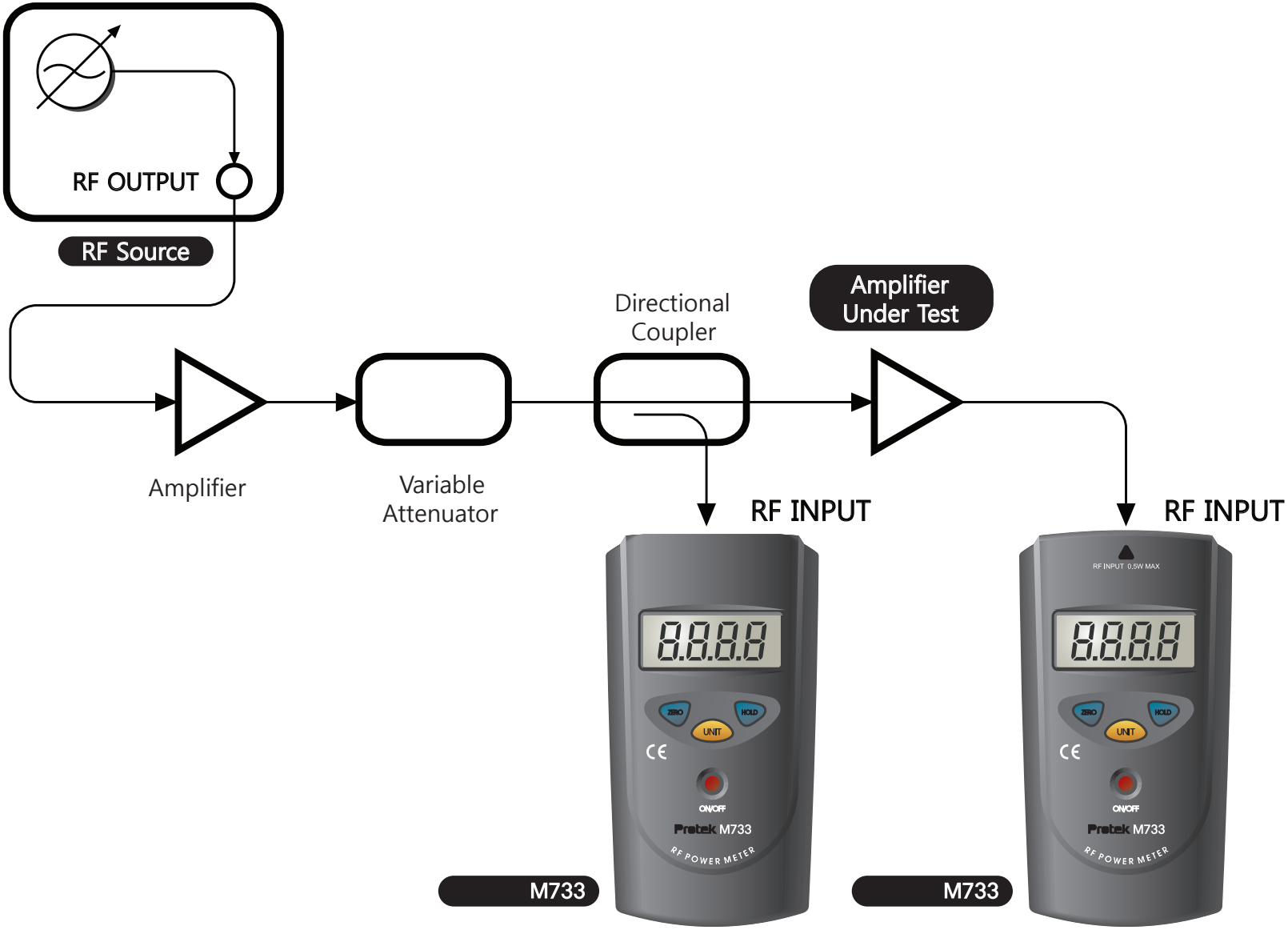


Figure 5. Amplifier Test

Specifications

l Frequency Range: 10MHz~ 2.9GHz

l RF Input Power Average Watt: 2mW to 500mW Max

l Accuracy ： 10MHz ~ 2.9GHz, ±1.5dB, Typical 93%

l Initialization: Push "meter zero" button

l Hold Function: Push "Hold" button

l Selecting units: Push each appropriate button such as mW, dBm, mV, dBmV

l Input Connection: N-type Female Connector (50 ohms)

l LCD Type : Mono, FSTN LCD

l Operating Temperature: +10°C to +40°C

l Storage Temperature: -20°C to +70°C

l Size: 89mm(W)´160mm(H) ´ 45.7mm(D)

l Weight: 900g Max

l Power: 6F22UT(006PUT) DC 9V Battery 2

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