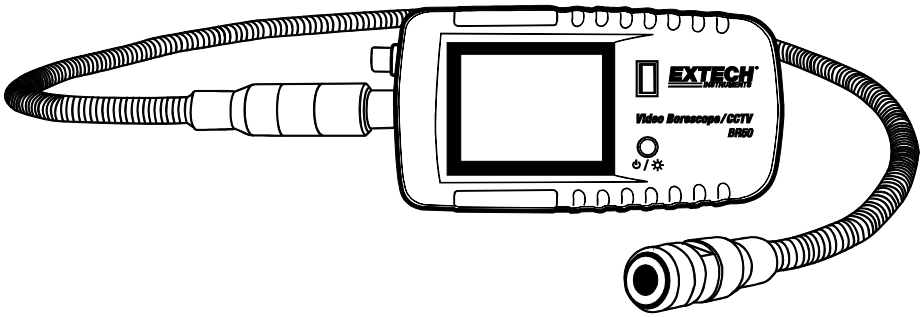
EXTECH INSTRUMENTS

User Manual

Video Borescope and CCTV Tester

Model BR50



Additional User Manual Translations available at www.extech.com

Introduction

Congratulations on your purchase of the Extech BR50 Video Borescope. This instrument was designed for use as a remote inspection device and a CCTV camera alignment/inspection tool. Typical applications include HVAC inspection, automotive inspection, and cable routing. The BR50 is also useful for automotive, boat, and aircraft inspection. This meter is shipped fully tested and, with proper use, will provide years of reliable service.

Features

- Real time video inspection
- Supports closed circuit TV input
- Bright LEDs to illuminate the area to be inspected
- Built-in rechargeable lithium battery, with AC charging or USB charging
- Supports NTSC and PAL formats

Safety

Before using the instrument, please read all safety and specification information carefully

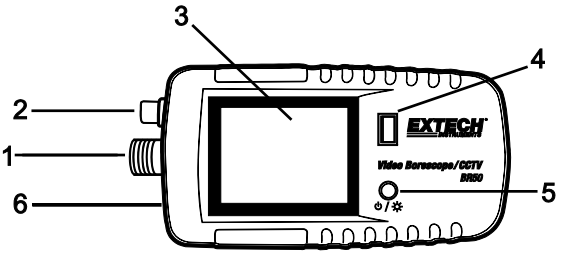
Dangerous electrical voltages may exist behind walls and inside machinery. Be careful not to make contact with electrical cables, wires, and circuits with the gooseneck; electrical shock could result.

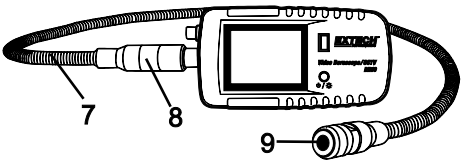
Double insulation in accordance with CE standards

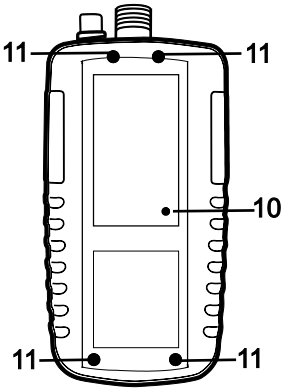
1. The meter should only be opened and serviced by qualified and authorized personnel
2. Do not handle the meter in a rough or careless manner. The meter houses sensitive instrumentation and should not be dropped or impacted in any way
3. The camera is water-proof; however the scope body is not water-proof. Do not expose the instrument to rainy or wet areas, and do not operate the meter in moist locations.
4. Do not aim the camera directly toward the sun from an indoor or an outdoor perspective. Do not operate the unit under a spotlight or other unusually strong light.
5. Operate the camera under the specified temperature, humidity and power supply conditions only.

Meter Description

1. Camera connection jack
2. External AV input jack
3. LCD Display
4. Status LED
5. Power / Brightness button
6. Charging cable connector
7. Flexible Gooseneck
8. Camera connection plug
9. Camera and LED lights
10. System reset button (rear view)
11. Four (4) housing screws (rear view)







Operation

Power the Meter

1. **Power Switch**: Press and hold the Power button and the display will illuminate if the internal battery is charged. Press and hold the Power button again to switch off the Video Borescope.
2. **Charging the Battery**:
   a. Before charging, make sure the meter is switched off.
   b. Connect the smaller end of the charging cable to the meter.
   c. Connect the other end of the charging cable to the AC plug or a PC USB port.
   d. A flashing red Status LED indicates the battery is charging. A solid green Status LED indicates a fully charged meter.

Borescope Operation

1. Connect the camera and gooseneck to the meter
2. Power on the meter
3. The camera image will appear on the display.
4. The camera is now ready for inspections

Light Source level adjustment

1. There are six levels of light brightness adjustments (the default is level 3).
2. Short press the power button to step through the brightness levels.

CCTV Operation

1. Connect the output of a CCTV camera to the AV input connector on the meter.
2. Power on the meter
3. After a few seconds, the camera image will appear on the display.
4. The CCTV camera is now ready for alignment.

Notes:

Signal Switching: The meter defaults to the borescope input. If a signal is applied to the AV jack the unit will automatically switch to that mode within 5 seconds. When the AV signal is removed, the meter automatically switches to the borescope mode within 2 seconds.

Signal format conversion: The borescope mode defaults to PAL format. The AV input signal is converted to NTSC / PAL format automatically.

Auto Power off: If no input is detected, the LCD displays the NO SIGNAL message, the LED flashes green and the meter enters standby mode.

Reset: Large magnetic fields or other disturbances could “lock up” the meter. If this occurs, press the RESET button on the rear of the meter.

Battery Power Indication

1. **Low Power**: When the battery voltage falls below 3.3V, the LCD display shows the symbol  in the upper right hand corner, indicating a low battery condition.
2. **Recharging**: The charging indication  indicates that the battery is charging.
3. **Full Charge**: When the battery voltage is greater than 4.0V, the battery symbol will be full.

Battery Replacement

The meter contains a rechargeable battery which is not user replaceable. Contact Extech or your distributor for replacement details.

Never dispose of used batteries or rechargeable batteries in household waste. As consumers, users are legally required to take used batteries to appropriate collection sites, the retail store where the batteries were purchased, or wherever batteries are sold.

Disposal: Do not dispose of this instrument in household waste. The user is obligated to take end-of-life devices to a designated collection point for the disposal of electrical and electronic equipment.

Specifications

Camera	
Sensor size	¼" CMOS
Sensor pixels	300,000
Maximum frame rate	30 FPS
Color resolution	24 Bit
Focusing method	Fixed focus 15cm to 25cm (5.9" to 9.8")
Gooseneck length	1m (39")
Camera diameter	17mm (0.66")
LCD Display	2.4" Color LCD
Display resolution	480 (W) X 234 (H) pixels
Active area	48mm x 35.6mm (1.9 x 1.4")
Light Source	4 LEDs
Adjustable light intensity	6 illumination levels
Video format	NTSC/PAL (automatic conversion)
Power	Rechargeable 1800mAH lithium battery
Current consumption	400mA max.
Standby current	5mA max.
Low battery warning	Voltage falls below 3.3V
Enviormental	
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Relative Humidity	85% max.

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