

# Operating instructions - AGA Thermovision® 750

Click in this page for in-depth information about building IR Scanners, energy savings, air leak detection tools, and related information at [InspectAPedia.com](http://InspectAPedia.com)

## Connecting the equipment

The equipment can be powered either from the power supply unit, the portable battery pack, or (via an auxiliary cable) from any other suitable 12-volt dc source. CAUTION! Before connecting power supply unit, be sure voltage selector 1 is set to correct line voltage. Connect units as shown in figure.

## Filling with liquid nitrogen

Unscrew filler cap 4 on IR camera unit. Turn camera upside-down to remove any condensed water from the detector dewar. Carefully pour liquid nitrogen into dewar until full. Screw on filler cap again securely.

## Mounting the camera lens

Screw lens onto camera. Adjust lens ring to approximate distance of object. Avoid touching the lens surfaces. (When cleaning lens surfaces, use cotton wool dipped in alcohol or ether, wiping gently once only with each new piece of cotton.)

## Selecting camera aperture

For object temperatures below 200°C set aperture knob 5 to "1.8". For higher temperatures, select proper aperture from calibration curves in the operating manual.

## Setting the display unit

Set SPOT WOBBLING switch 2 to "ON" and PHOTO PRESET switch 3 to "OFF" (both on rear of display unit).

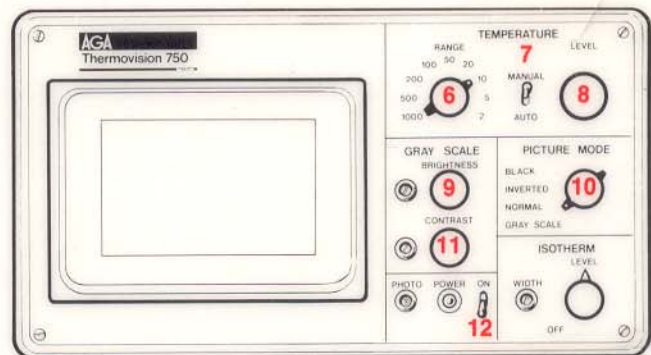
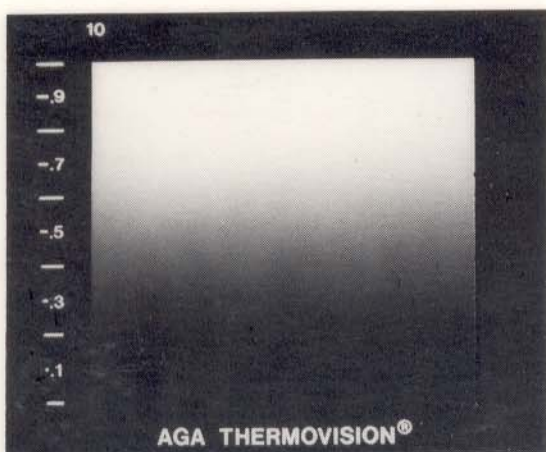
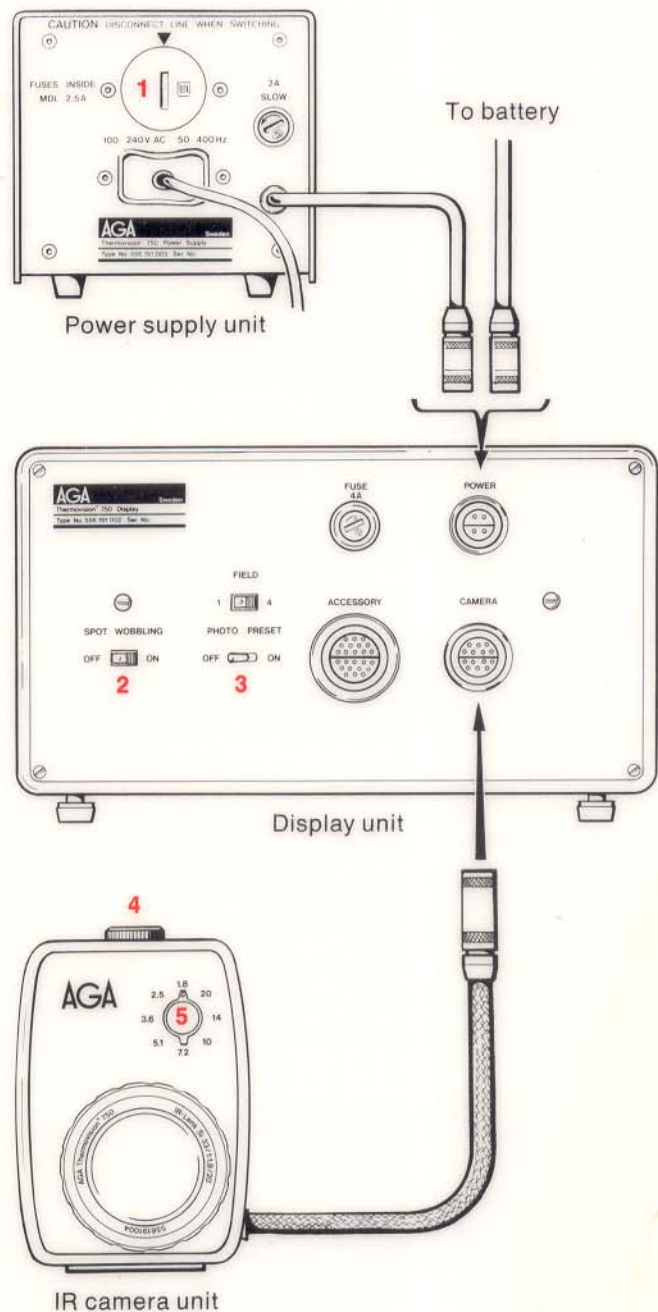
## Starting

Set POWER switch 12 to "ON". Red lamp beside switch comes on, camera motors start and, after about 10 seconds, display screen lights up.

## Adjusting picture gray scale

Set PICTURE MODE selector 10 to "GRAY SCALE" and adjust as follows:

Turn CONTRAST knob 11 full counter-clockwise. Adjust BRIGHTNESS knob 9 until middle-gray tone is evenly distributed over screen. Then adjust CONTRAST knob until gray scale appears black at bottom, gray halfway up, white at top:



## Normal thermal picture

### Automatic temperature level control

Set MANUAL/AUTO switch **7** to "AUTO" and PICTURE MODE switch **10** to "NORMAL" (warmer details appear lighter in picture, cooler details darker). Set TEMPERATURE RANGE selector **6** (e.g. position "10" gives a temperature span in picture of 10°C at room temperature). Chosen range appears on screen above picture, **15**. Start with a high setting and reduce to desired value. Refocus camera to obtain sharpest possible image.

### Manual temperature level control

For manual adjustment of picture temperature levels, set MANUAL/AUTO switch **7** to "MANUAL". Adjust TEMPERATURE LEVEL multiturn knob **8** until desired gray tones are obtained.

## Inverted presentation

For a thermal picture in which warmer details show up darker and cooler details lighter, set PICTURE MODE selector **10** to "INVERTED".

## Isotherm function

To utilize the isotherm function (which brightens up all details having the same temperature in picture) turn ISOTHERM LEVEL knob **14** clockwise from the "OFF" position.

### Adjusting the isotherm level

The position of an isotherm within the picture temperature range is adjusted with ISOTHERM LEVEL knob **14**. Position is indicated by a marker **16** on vertical scale of display screen, the 10 divisions of which span the selected temperature range.

### Adjusting the isotherm width

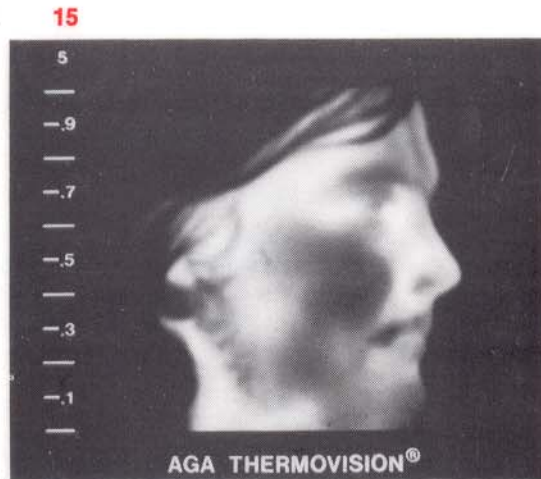
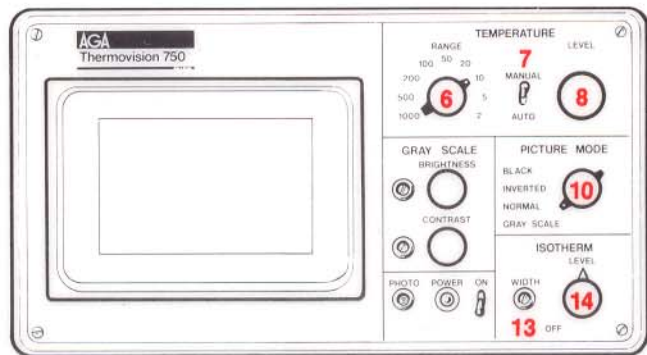
The width of the isotherm marker **16** can be varied by adjusting ISOTHERM WIDTH screwdriver control **13**. A commonly used width is 1 scale division.

### Black picture

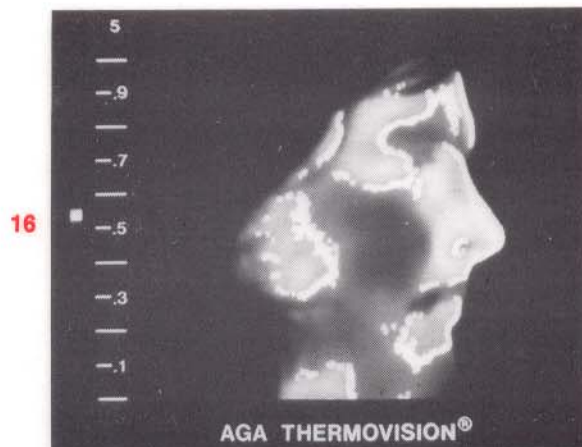
For isotherm-only presentation (with gray tones in picture suppressed) set PICTURE MODE selector **10** to "BLACK".

## Photo-recording and temperature measurements

Detailed instructions for making photo-recordings of the thermal picture (thermograms) and performing picture temperature measurements are given in the operating manual.



Normal thermal picture presentation



Normal presentation with isotherm contours