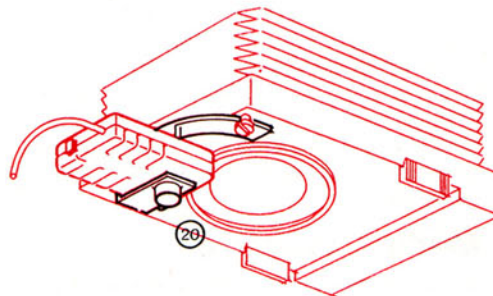
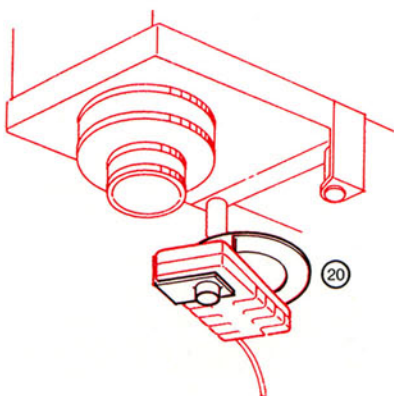
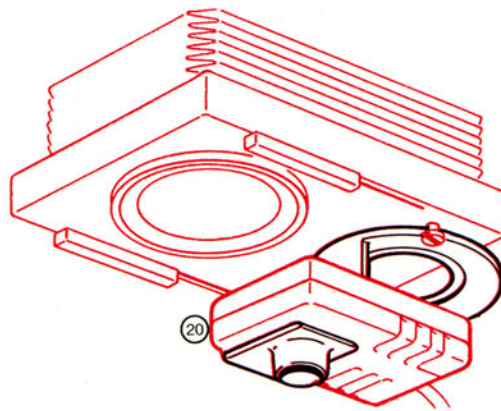
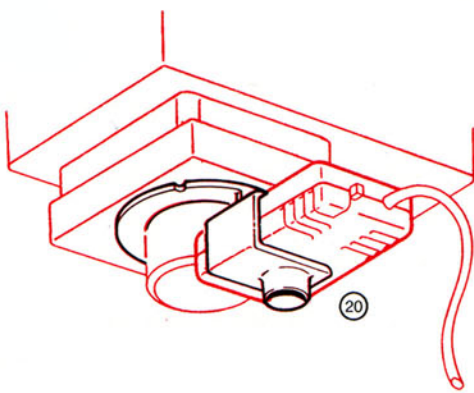
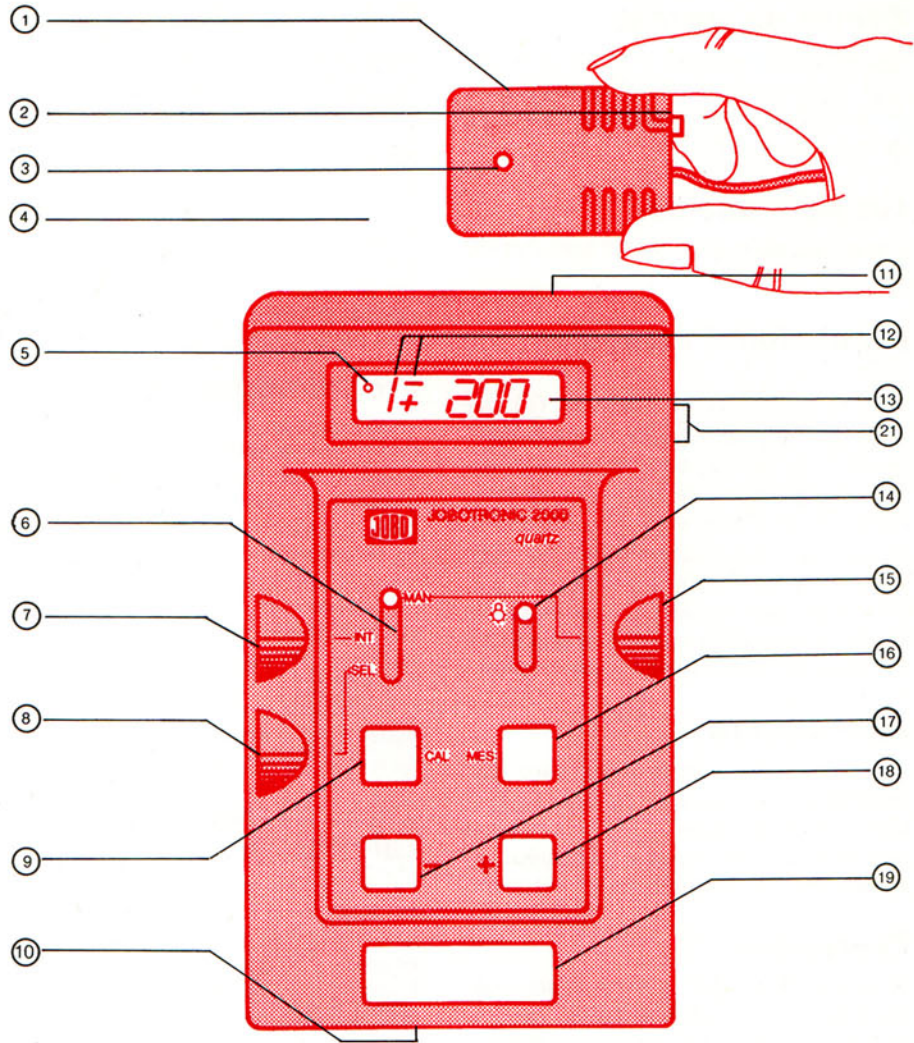


# JOBOTRONIC 2000 quartz

- ① Meter probe
- ② Reading button on probe
- ③ Meter cell
- ④ Mains lead with 2-way adapter for enlarger lead
- ⑤ Range overrun LED
- ⑥ Measurement mode selector switch (MAN/INT/SEL)
- ⑦ Time setting wheel for INT mode
- ⑧ Time setting wheel for SEL mode
- ⑨ Calibration (paper speed value) key (CAL)
- ⑩ Socket for foot switch
- Mains switch
- ⑫ +/— indication
- ⑬ 3-digit display
- ⑭ Continuous-light switch
- ⑮ Time setting wheel for MAN mode
- ⑯ Measuring key
- ⑰ — correction key
- ⑱ + correction key
- ⑲ Start/stop key
- ⑳ Probe holder
- ㉑ Fuse



The Jobotronic 2000 quartz is a digital automatic timer and enlarging exposure meter with quartz-stabilised time control and highly sensitive silicon meter probe.

It provides the following functions:

- Manual exposure timing (MAN mode) with provision for interrupted exposure and override correction.
- Exposure timing with measurement  
INT = Average brightness readings  
SEL = Spot readings
- Brightness range measurement to determine paper grades.

All switching and memory values are entered with three analog control wheels and displayed digitally.

The digital display automatically becomes brighter when you switch on the room lighting.

For simpler operation you can also plug the JOBO foot switch into the socket ⑩.

## Setting up

Plug the mains lead (4) into a supply socket. Plug the lead from the enlarger into the adapter socket on the lead. Switch on the mains switch (11).

## Continuous light

Set the continuous light switch (14) to  $\odot$ .

## Manual exposure

without measurement

Set the mode selector (6) to MAN. Turn the setting wheel (15) to set the required exposure time on the display (13). Switch off the focusing light with the continuous-light switch (14). Start the exposure by pressing the start/stop key (19). The time runs down to zero; at the end of the exposure the previously selected time reappears in the display and can be called up afresh.

## Interrupted exposures

By pressing the start/stop key (19) during an exposure you can interrupt and restart the exposure as often as required. The display in each case shows the remaining time.

## Override correction

The exposure time entered may be decreased or increased by pressing the keys (17) or (18) respectively. Press the key once for a half-stop adjustment or twice for a full-stop adjustment.

The correction factor set appears at the left of the display as  $+/+/-/-$ .

The display (13) automatically shows the new exposure time. The correction factor entered may be cleared again by pressing the opposite key ((17) or (18) respectively).

## Preparation for programming

Establish the correct exposure time (by test exposures) for a negative (or transparency) of normal contrast and brightness range. Then use the same negative or transparency for programming, without altering the aperture or magnification of the enlarger.

### Attention:

An insufficiently blacked-out darkroom — or an enlarger that leaks appreciable stray light — may cause erroneous readings.

Note for average readings: You have to reprogram afresh if you switch film sizes (e.g. from 35 mm to 6x6 cm) or modify the image area by masking strips in the negative carrier.

Do not keep the luminous digital display of the Jobotronic 2000 within sight of the meter cell. Pressing the CAL (calibration) (9) key clears the set time.

## Programming for average readings

Switch off any darkroom lighting.

Switch on the enlarger in continuous-light mode with the switch (14). Place the probe (1) in the probe holder (20) next to the lens (see illustrations). Set the mode selector (6) to INT. Press the measuring key (16) and keep it depressed while you adjust the setting wheel (7) to obtain in the display (13) the exposure time established by the test exposure. This programs the unit.

## Programming for spot readings

Switch off any darkroom lighting.

Switch on the enlarger in continuous-light mode with the switch (14). Locate the meter probe (1) on the baseboard, so that the cell (3) is in a brightest area of the projected image that still shows detail. Move the mode selector (6) to SEL. Press the measuring key (16) or the reading button (2) on the probe and keep it depressed while you adjust the setting wheel (8) to obtain in the display (13) the exposure time established by the test exposures. This programs the unit.

## Determining the paper speed (calibration) value

After programming for average or spot readings, press the calibration key (9). A paper speed (calibration) value now appears in the display (13). Note this value on the package of the paper used.

## Entering known paper speed values

When using different paper types, you can enter the paper speed value established before: Press the CAL key (9) and adjust the setting wheel (7) for average readings — or the wheel (8) for spot readings — until the paper speed value appears in the display (13).

## Average readings

Switch off any darkroom lighting.

Switch on the enlarger in continuous-light mode with the switch (14). Set the mode selector (6) to INT. Place the meter probe (1) in the probe holder (20) next to the lens. (Check that it engages correctly.) Adjust the image area and size, focus and set the lens aperture. Then press the measuring key (16). The required exposure time appears in the display (13) and is stored when you let go of the measuring key. Switch off the continuous light (enlarger) with the switch (14). Now start the exposure (and repeat it any number of times) with the start/stop key (19).

## Spot readings

Switch off any darkroom lighting.

Switch on the enlarger in continuous-light mode with the switch (14). Locate the

meter probe (1) on the baseboard. Set the mode selector (6) to SEL. Adjust the image area and size, focus and set the lens aperture. Then place the meter cell (3) in the brightest area of the projected image that should still show detail. Press the measuring key (16) or probe reading button (2). The required exposure time appears in the display (13) and is stored when you let go of the measuring key. Remove the probe (1) from the projected image area and switch off the continuous light (enlarger) with the switch (14). Start the exposure (and repeat it any number of times) with the start/stop key (19).

## Contrast readings

Switch on the enlarger in continuous-light mode with the switch (14), keeping the darkroom lighting switched off. Set the mode selector (6) to SEL. Locate the meter probe (1) on the baseboard so that the cell (3) is in the brightest area of the projected image. Press the measuring key (16) or probe button (2), keep it depressed and adjust either the lens aperture or the setting wheel (8) until the display (13) shows 10 seconds.

Then locate the meter cell (3) — with the measuring key (16) or probe button (2) depressed — in the darkest area of the projected image. The display (13) now shows another time value, say 500 seconds. The ratio of the two values is the contrast (brightness range) — in this case 1:50 — and thus the exposure range needed in the paper.

## Approximate exposure ranges of black-and-white papers

Gradation:	0	1	2	3	4	5
Exposure range:	1:50	1:25	1:16	1:10	1:6	1:3.5

(0 = softest, e.g. extra soft; 5 is hardest, e.g. extra hard)

## Changing the fuse

To remove the fuse, turn the fuse holder (21) anticlockwise.

## Technical data:

Voltage:	220 volts, 50 Hz
Current consumption:	5.5 watts
Switching capacity:	500 watts
Fuse:	2 amps slow-blow
Measuring range:	approx. 0.001 - 15 lux
MANUAL setting range:	approx. 3 to 100 seconds Can be extended with the + and — keys- (17) and (18) to 1.6 to 200 seconds
INT/SEL display range:	0 to 990 seconds

The display runs in steps of:

0.2 second up to 40 seconds

1 second from 40 to 100 seconds

2 seconds from 100 to 400 seconds

10 seconds from 400 to 990 seconds

On exceeding the display range (990 seconds), the range overrun LED (5) lights up.