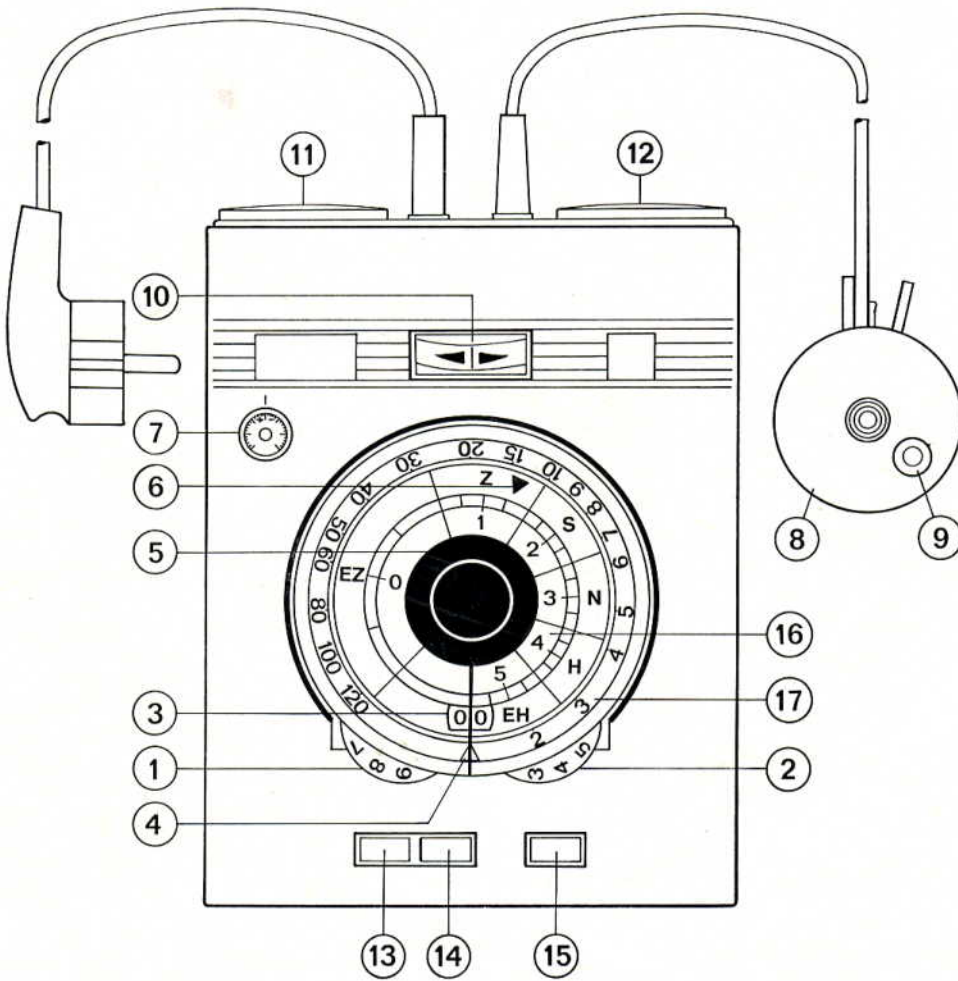


**BESELER P22 ANALYZER/TIMER**

**DIRECTIONS FOR USE**

# BESELER P22 ANALYZER/TIMER



## NOMENCLATURE

1. Exposure time control 10 - 120 seconds
2. Exposure time control 1 - 9 seconds
3. Time control window
4.  $\Delta$  Shadow exposure setting
5. Paper sensitivity and contrast selection knob
6.  $\blacktriangleright$  Neutral time control
7. Probe sensitivity knob
8. Measuring probe
9. Measuring window
10. Meter window
11. Enlarger socket
12. Safelight socket
13. Measurement switch (white)
14. Safelight switch (green)
15. Exposure switch (red)
16. Paper contrast scale (0 - 5)
17. Exposure scale for contrast determination.

## GENERAL FEATURES

The BESELER P 22 ANALYZER/TIMER is a fully calibrated electronic light measuring unit and enlarging timer. It has the ability to determine the most suitable grade of paper for any negative and the correct printing time for any size enlargement. In addition it automatically corrects for the differences in printing speed between various paper grades. The exposure time, once determined, is stored in the "memory" of the unit, and can be repeated indefinitely. The P 22 is equipped with a high precision indicator by which the correct exposure time can be accurately determined.

When the measuring probe is in use, the P 22 Analyser automatically switches off the safelight illumination. This insures greater exposure accuracy since safelight illumination may effect the measuring results.

The P 22 may also be used as a highly accurate, repeatable timer.

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## TECHNICAL DATA

Measuring range/exposure time :	1 to 120 seconds
Switching power	: 1400 Watts
Operating voltage	: 110/130 V 50 - 60 cycle
Measuring probe	: Ultra sensitive darkroom type

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## SETTING UP

Connect the enlarger and safelight to the sockets (11 and 12) on the back of the analyzer. Connect the P22 power cord to the wall socket. The dial is now illuminated and after a 60 second warm-up, the analyzer is ready to use. (Allow a 60 minute warm-up after extended periods of disuse).

## EXPOSURE DETERMINATION

Turn both time control dials (1 and 2) to 0. (The right dial (2) has a click stop between 0 and 1). Depress the white measurement switch. The safelight is now turned off and the enlarger is turned on. If the safelight cannot be connected to the timer, it should be manually turned off during measurement, thus assuring accurate results. Focus the enlarger, crop the image as desired, and stop down the enlarger lens 2 to 3 openings from maximum. "Pinch" together the two finger grips of the probe (8) and place the window (9) on the darkest part of the projected image in which some detail is visible.

Turn the time controls (1 and 2) until the needle of the tuning indicator (10) is centered. When the needle is centered in the dial, the timer is set for the correct exposure time.

If the needle will not center when making very big enlargements or when using extremely dense negatives, turn the diaphragm of the enlarger lens to a larger opening and repeat the above procedures.

## MAKING THE EXPOSURE

Depress the green push button. The safelight is now switched on and the enlarger lamp and measuring probe are switched off. Place the enlarging paper in the easel, and start the exposure time by depressing the red push

button.

To obtain best print, the black needle of the contrast control knob (5) must be set to the proper grade being used (16). This way the P22 Analyzer automatically corrects the exposure time for the differences in sensitivity between various paper grades.

## SUMMARY

1. Press white probe button.
2. Focus enlarger and select F/stop.
3. Place the window of the probe on the darkest part of the projected image with detail visible.
4. Adjust timer controls to center the exposure needle.
5. Press the green safelight button.
6. Press the red button to begin the exposure.

## DETERMINATION OF PAPER GRADE

Depress the white probe button. Place the window (9) of the probe on the lightest part of the projected image with visible detail. Center the needle (10) using timer dials (1 and 2). Note the number in window (3). Move the exposure time scale (17) until the time in the  $\Delta$  (4) is the same as window (3).

Place the window of the probe on the darkest part of the image with visible detail. Center the needle using timer dials (1 and 2). Note the new number in window (3). Set the black needle of the contrast control knob (5) to the same number on the exposure scale (17) as seen in window (3). The needle of the contrast control knob (5) will now point to the proper paper contrast grade on the contrast scale (16). Use this contrast grade of paper with this negative.

To expose, depress the green button, place paper in the easel, and depress the red button.

## EXAMPLE

The value **10** (in window 3) is found for the lightest part of the negative. Set the **10** of exposure scale (17) inside the  $\Delta$  (4). The value **60** (in window 3) is found for the darkest part of the negative. Set the indicator knob (5) to **60** on exposure scale (17). Notice that the indicator knob is also pointing to the correct contrast grade of paper you should use (scale 16). In this case, a paper grade 2 is recommended indicating a negative of normal contrast has just been analyzed.

**Note :** The black indicator knob (5) is coupled to the timer controls. This assures automatic correction of the differences in sensitivity between various paper grades. If the instructions from the paper manufacturer indicate that there is no difference in sensitivity between various paper grades, the black indicator knob must be set to  $\blacktriangleright$  (6), the neutral position.

When using multi-contrast papers (Varigam, Polycontrast, etc.), analyze the negative for the correct paper contrast **WITHOUT** any filters in the enlarger. Place the proper multi-contrast filter in the enlarger, and re-analyze the darkest part of the image to obtain the correct exposure time.

## TIMER

The P 22 Analyzer/Timer may be used simply as a timer. Depress the green button, turn black indicator knob (5) to  $\blacktriangleright$  (6) (neutral position) and set the time with time control dials (1 and 2). The chosen time is started

by the red button and can, in principle, be repeated indefinitely. For exact repetition of the selected time, allow five seconds between exposures.

## SPECIAL SITUATION ADJUSTMENT

By programming the analyzer to deliver a consistently lighter (or darker) print, you can compensate for your individual preferences in developer choice, developer dilution, print agitation, developing time or temperature if you want results other than "normal". The character knob (7) controls the sensitivity of the measuring probe. Turning this knob to the left will result in consistently lighter prints. Turning it to the right will produce darker prints. Experimentation and personal preference are your only guides when selecting a setting other than "normal".

## MEASURING CELL

The measuring cell used in the probe is an ultra-high sensitive instrument of high quality, specially adapted to the extremely low light values of the darkroom. Protect the cell against excessive light, such as daylight. If exposed to very bright light, the cell may need a few minutes to recover before you use it the next time.

When measuring very dark negatives, the cell may require about 15 seconds to adapt itself to that value.