Technical Specifications:

Density: 0.00-5.00 D with 2mm and 3mm apertures

0.00-4.00D with 1mm aperture

Probe Temperature compensated

Display: 4 digit LED

Accuracy: ±0.02 D

Resolution: 0.01D

Repeatability: 0.01D

Custom calibration range: -0.19 ~ +0.19D (Program Mode)

Warm up time: No need

Detector: Silicon photodiode

Light source: LED

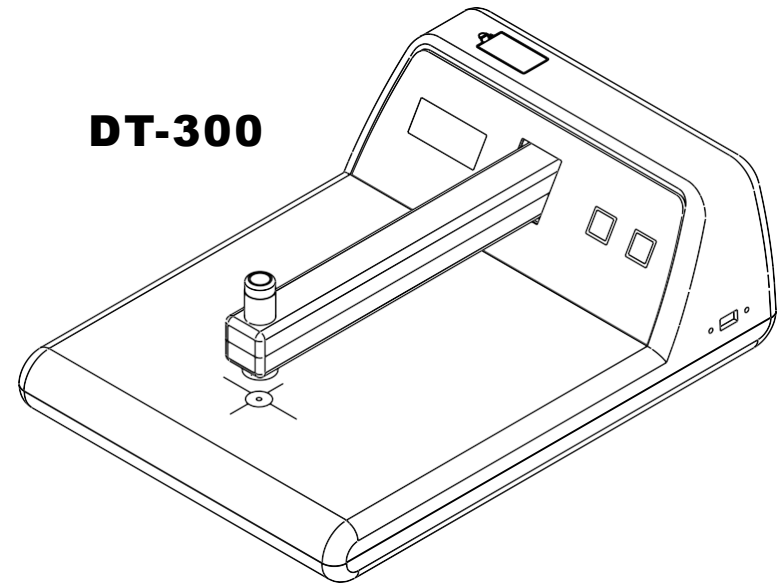**Power supply:** 90V–264V AC / 47-63Hz

Dimensions: 360mm x 260mm x 120mm

Weight: 1.7Kg

Black and White Transmission Densitometer

User's Manual

DT-300

Wen Zhou Lu Cheng NDT Equipment Corp.

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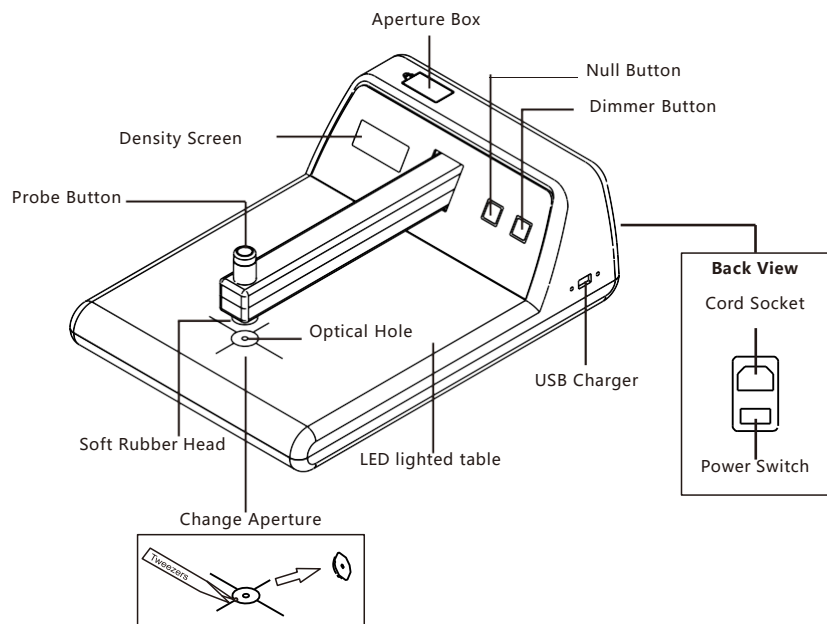e-mail: sales@ndtsupply.com, www.ndtsupply.com

The DT-300 is table type design, robust, easy to use, densitometer for measuring the black and white transmission x-ray film. The unit has been designed for using in darkrooms, laboratories and offices.

It provides highly repeatable and accurate measurements of film densities up to 5.0D. Because of high luminance of spot light, it is more subtle than can be seen by the naked eye.

The LED light table can be dimmed in 5 steps. And there are 2 sections of light for choose. You can easily see and measure film by this densitometer.

Components:

Aperture Box
Null Button
Dimmer Button
Density Screen
Probe Button
Back View
Cord Socket
Optical Hole
USB Charger
Soft Rubber Head
LED lighted table
Power Switch
Change Aperture
Tweezers

Measurement:

1. Insert Power cord to Cord Socket. Turn Power Switch on. Click Dimmer button to adjust the intensity of LED lighted table(There are 5 steps, from 0%-100%). Long press Dimmer button the lighted table will be switched between All on and Half on.

2. Press down the Probe Button till Soft Rubber Head totally touched the table. Hold & Press Null Switch till Density Screen displayed "0:00", then release the Probe Button.

3. Place your film on LED lighted table. Press down the Probe Button till Soft Rubber Head totally touched the film. The display will show the density. Release the reading head.

Program Mode: (carefully use it if it is really needed)

If the margin of error exceed ±0.03. First make sure your density strip is valid and trustable, and then you can enter into Program Mode to recalibrate it.

1. Turn off the DT-300.

2. Keep Pressed Null Button, then turn on the DT-300, until "**P**" appears, then release Null Button. It means you have entered into Program Mode.
 ***Caution:** Under this mode, long press Dimmer Button will reset all settings.

3. Short press Null Button, it will turn between "F1-F2-F3-F1".

   a) F-1: For customer use

   b) F-2: Default Set

   c) F-3: For customer use

5. Long press Null Button. It will appear "+A:.0B"(A,B=0,1,2…or 9), then release the Null Button.

6. Short press Null Button, factor B will turn between 0,1,2,3,…19,-19…-3,-2,-1,0.

7. Long press Null Button, factor A will turn between 0,1,2,3,…9,0, and save the previous factor B.

8. Increased one by one between -0.19 to 0.19, which will plus the measurement results.

Factor A	Valid Step range	Factor B
0	0 :0.1-0.5	-0.19 ~ +0.19
1	1 :0.5-1.0	-0.19 ~ +0.19
2	2 :1.0-1.5	-0.19 ~ +0.19
3	3 :1.5-2.0	-0.19 ~ +0.19
4	4 :2.0-2.5	-0.19 ~ +0.19
5	5 :2.5-3.0	-0.19 ~ +0.19
6	6 :3.0-3.5	-0.19 ~ +0.19
7	7 :3.5-4.0	-0.19 ~ +0.19
8	8 :4.0-4.5	-0.19 ~ +0.19
9	9 :4.5-5.0	-0.19 ~ +0.19

The calibration factor will be saved automatically, even power off.

For example:

So we can set corresponding factor as below:

Density in strip	Density we measured	Error
0.15	0.15	0.00
0.60	0.65	-0.05
1.60	1.55	+0.05

Factor NO.	Factor value
0	0.00 (default)
1	-0.05
3	+0.05

9. After the Program, you need to reboot the unit.

Notes: Each DT-300 is strictly calibrated during factory.

You can Return to factory Settings by Long press Dimmer Button in the Program mode, will display 0.00, then reboot the unit.