FLUKE ®

Biomedical

TNT 12000
X-Ray Test Device

Quick Reference Guide

Introduction

The TNT 12000 is designed for fast setup and use to enhance productivity and reduce errors particularly during repetitive x-ray system output measurement and analysis routines.

The TNT 12000 system consists of a wireless detector and companion hand-held display. All measured values are displayed immediately following a single exposure.

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The TNT 12000WD system consists of a wireless detector and uses a laptop computer as a display (computer not included).

Both the TNT 12000 and the TNT 12000WD use a wireless ZigBee™ communication protocol to communicate between detector and display or laptop.

The TNT 12000 single array of solid-state sensors measure kV, Dose, Dose Rate, Half Value Layer (HVL) and exposure time over the entire diagnostic x-ray radiographic, fluoroscopic, mammographic and dental ranges.

All measured values are displayed after each exposure so it is not necessary to make a value preference selection prior to each exposure. This functionality eliminates a typical step in the measurement routine.

Measured values can be recorded for archive and further analysis using the TNT 12000 Excel Add-in Software (provided).
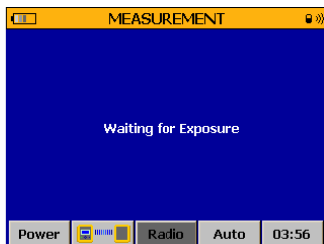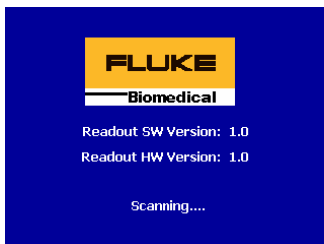
TNT 12000 Ansur Test Automation Software is also available (option) to permit automated test routines that can assure the continuity and accuracy of results.

Measurement

Making a measurement is simple. After removing the unit from the carrying case, separate the detector and display from their clamshell storage position.
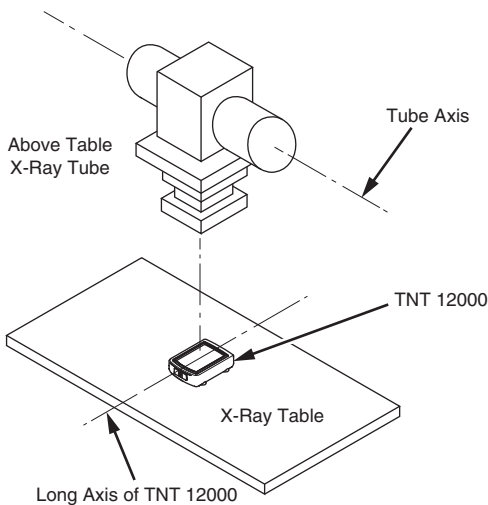
Step one:

Turn on both the detector and display. The display will scan for the companion detector and establish a wireless connection.
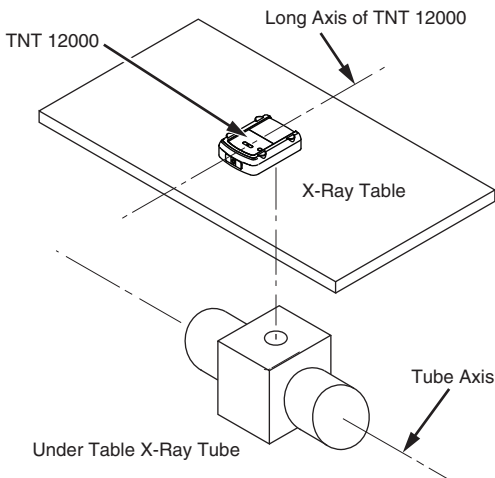

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Step two:

Once connection is made, the waiting for exposure screen is displayed. Place the detector in the beam measurement position and make an exposure. All measured values will be displayed.
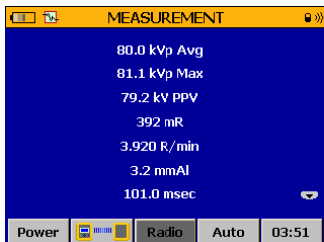

Above Table X-Ray Tube

Tube Axis

TNT 12000

X-Ray Table

Long Axis of TNT 12000

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Long Axis of TNT 12000

TNT 12000

X-Ray Table

Tube Axis

Under Table X-Ray Tube

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If the measurement to be made is the same as during last use, radiographic (Radio) for example, the unit is automatically set when power is turned on as the TNT 12000 always defaults to the last use. If a different x-ray system operating mode, (Mammo) for example, is to be measured, using the directional keys highlight the current mode (Radio) and depress the enter key. The mode selection screen will be displayed. Toggle to highlight the desired mode (Mammo) and depress the enter key. Follow step two above.

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This quick start guide is intended to illustrate the simplicity of operation of the TNT 12000 and to introduce the user to the basic functionality of the system. It is recommended that the user carefully review the user manual (CD) to learn about all of the comprehensive features of the TNT 12000. There you will also find the TNT 12000 Excel Add-in Software operator instructions and many other useful sources of information about your new TNT 12000.