

INFORMATION ONLY – DOES NOT COMMUNICATE
A MODIFICATION OR SAFETY CONDITION

5DX-74

S E R V I C E N O T E

Supersedes:
NONE

5DX Series I, II, 2L, 3, 5000 and 5000XL Systems

Serial Numbers: All

5DX Radiation Safety Specifications

Parts Required:

P/N	Description	Qty.
NONE		

General Information:

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION: INFORMATION ONLY
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ADDITIONAL INFORMATION:

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The Agilent Technologies (formerly Hewlett Packard and Four Pi Systems) 5DX System is designed for automated process testing of solder connections on printed circuit board assemblies. The system can be used for all standard joint-types and fully supports inspection of single and double-sided boards.

Agilent Technologies is registered with Federal and State agencies to sell and service its own x-ray equipment. The equipment was designed, and is used, to inspect printed circuit boards only. The X-ray equipment is classified in the USA and internationally as a “Fully Protective Industrial Cabinet X-ray System” and is not for human entry. The equipment has been designed and manufactured to be safely used in any area. It complies with applicable radiation safety regulations (e.g. United States, Japan, United Kingdom, Germany).

X-ray Safety Requirements:

As part of ensuring that our products are safe, Agilent Technologies recommends that all Four Pi Systems, Hewlett Packard, and Agilent Technologies 5DX Systems have an X-Ray Safety Test completed for each of the following events:

- “First Time” power up in 5DX production
- System Installation
- System Move/Relocation or Recertification
- ***Semi-annual safety test***
- X-ray Tube or High Voltage Power Supply replacement
- Repair, replacement, or adjustment of lead shielding or inner barrier

This Test includes performing a radiation scan of the 5DX and Interlock verification and adjustment. Attending the Agilent internal 5DX CE Training Class and having calibrated, approved radiation meters and tools is required before performing an X-ray Safety Test. Furthermore, Agilent requests and maintains copies of all X-ray Safety Test Reports.

Technical Information:

The 5DX is classified as an industrial cabinet x-ray system and uses an x-ray tube operating at 160kV, 100 μ A in normal operating conditions. The lead cabinet is designed to eliminate radiation hazards and is fully interlocked such that the main power to the x-ray tube is removed when any access panel or door is opened.

Radiation Safety Specifications:

The 5DX Systems are designed and manufactured to meet all regulations in their market locations. End-user obligations are specified in applicable local legislation and the system documentation.

- Agilent Technologies performs 100% sample testing. Each system has an X-ray Safety Test performed on it before it leaves the manufacturing site as well as when it is installed at the customer site. Furthermore, Agilent recommends that surveys be performed every 6 months, whenever the system is moved, and after shielding or x-ray generation components are replaced.
- The X-ray Safety Test that is performed by trained personnel is done with an increased voltage, increased current, and worst-case scan radius to provide additional safety measures as compared with normal operating conditions.
- The maximum radiation exposure allowed via an internal specification during an X-ray Safety Test is 0.15mR/hour (1.5 μ Sv/h) at a distance of 5cm. Any system that is found to be above this specification is considered to have failed the x-ray survey and is removed from operation/manufacturing until repaired.

X-ray Safety Test Procedures and X-ray Safety Test Reports are available at:

<http://agilent.com/see/5DX>

Select “Product & Safety Notifications”

Select “X-ray Safety Test” to obtain the required procedure and report.

Note: If you need more information or have any questions, please contact your local Agilent office.