

Name: _____ Date: _____ Team: _____

Lab Experiment # 14

Automatic Exposure Control Systems 2

Direct Radiography

Purpose

This experiment is designed to demonstrate the proper use of automatic exposure control (AEC) systems.

Learning Objectives

After completing this lab, you should be able to:

1. Use the laboratory equipment properly.
2. Set up the control console and ceiling tube mount correctly.
3. Function effectively in group work.
4. Perform the experiment independently.
5. Set up the control console or an automatic exposure control system.
6. Explain the common limitations of AEC.
7. Predict the effect of the change in radiation detectors on exposure index.

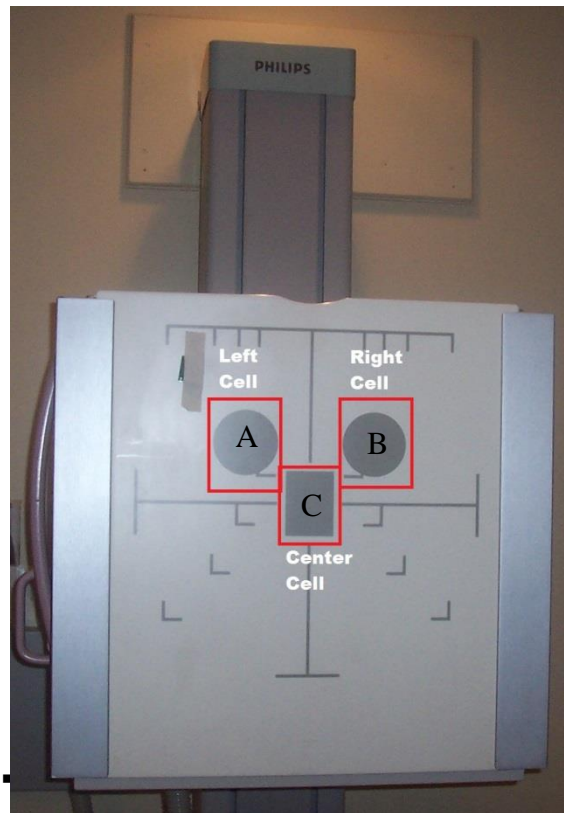
Materials Needed

- **35cm x 43 cm FPD image receptor**
- **Whole Body Phantom**
- **Set of radiopaque markers**

Experimental Setup

Instructions for Exposure 1

1. Place a direct radiography FPD image receptor in the **ucky lengthwise** and set the SID to 40 inches.
2. Place the **Whole Body Phantom** on the tabletop positioned for various projections as indicated on the worksheet
3. Set the control console to the **AEC** mode.
4. Make exposer 1-8 using the settings indicated on the worksheet.
5. Record the mAs used for each exposure. It will be displayed on the control console **immediately after each exposure has been completed**.
6. Record the radiation detector (**A,B, C**), TEI, EI, and DI for each exposure.



Direct Radiography



The wireless digital (FPD) image receptor can only be handled by an instructor!

Worksheet

	Anatomy	Speed	kV	FSS	Back-Up Time	Radiation Detectors	Density Selector	Grid	SID	mAs time	EI
1	Shoulder	H					0	bucky	40"		
2	T-spine	H					0	bucky	40"		
3	Chest AP	H					0	bucky	40"		
4	L-spine	H					0	bucky	40"		
5	KUB (Abdomen)	H					0	bucky	40"		
6	Pelvis AP	H					0	bucky	40"		
7	Hip AP	H					0	bucky	40"		
8	Knee	H					0	bucky	40"		

