IMAGING SYSTEMS OVERVIEW

Scene

Optical
Front-End

Focal Plane Array
Scanner

f_d (m,n)

Image
Processor

f_a (x,y)

g_a (x,y)

g_d (m,n)

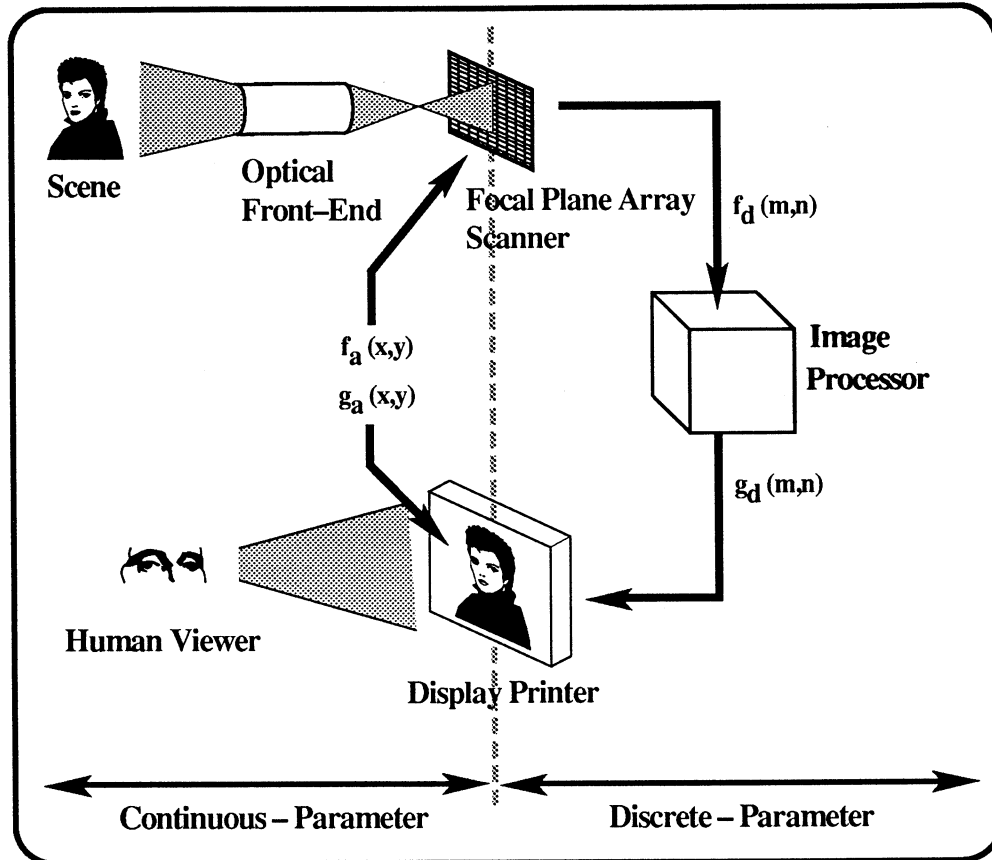Human Viewer

Display Printer

Continuous – Parameter

Discrete – Parameter

ELECTRONIC IMAGING

Application Areas

- Home entertainment
- Business communication
- Manufacturing
- Medicine
- Scientific research
- Military command, control, and communications

Key Elements

- Acquisition of real-world image information
- Digital processing of that information
- Presentation of results to a human viewer

Module Objectives

- Develop tools for analysis of imaging systems
- Introduce basic concepts of digital image processing

MODULE 2 OUTLINE

1. 2-D Linear Systems and Spectral Analysis

2. Sampling and Scanning

3. Human Visual System

4. Printing and Display of Images

5. Image Enhancement

6. Image Compression