

Chapter 1

Types, Selection, and Applications of Microcontrollers

Lesson 4

Application Examples

General

- Electronic Weighing Machine
- Temperature
- PH Meter
- Spectroscopic Recorders
- Proximity Detectors
- Intensity Analyser
- Data Acquisition System



An 8051 based baby Weighing Machine

Biomedical

- ECG recorder,
- Patient monitoring System
- Blood Cells Counter
- Analyser
- Sono-graphic System
- Radiation Therapy System
- Physiotherapy System

Handheld instrument

- Sugar Analyser
- Pressure Measuring
- Magnetic Field detection
- Target Distance Finder
- Moisture meter
- Strain Measurement
- Air conditioner Control

Communication

- Setup Box
- Switches
- Hubs
- Router

Communication

- Signal Tracker
- Cable TV
- Target Tracker
- Signal Polarization, direction and Strength Analyser
- Infrared Remote sensing

Controller

- Temperature,Moisture and Physical parameters controller
- Robot control
- CNC machine control
- Industrial Plant control
- Automobile Automatic Cruise Control
- Real Time Control

Peripherals Controller

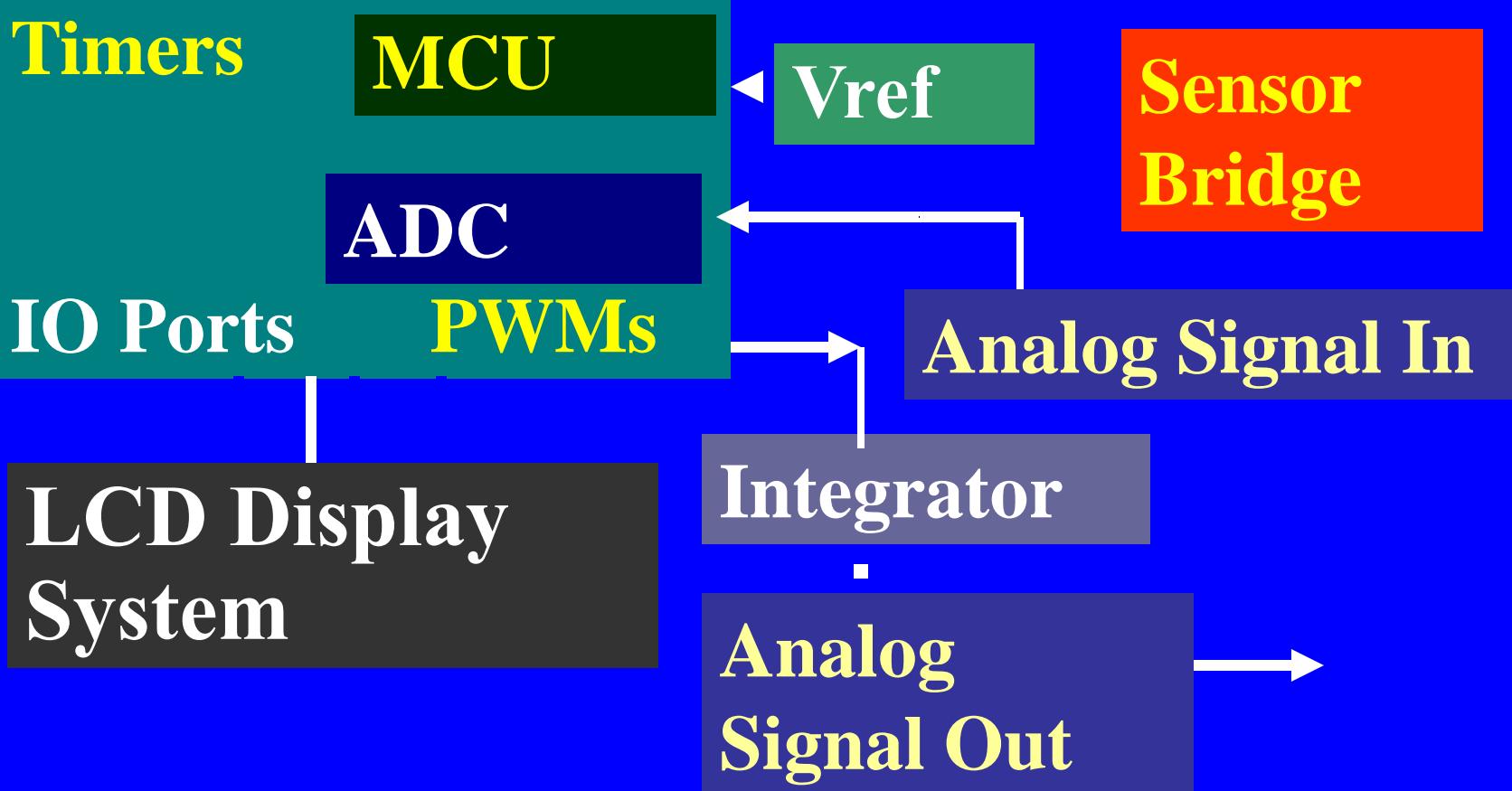
- Printer controller
- USB Port Host Controller
- CRT display controller
- LAN controller
- Disk drive controller



A miniature copter

Process Control System

- Input for multiple stages sensors
- Output to multiple solenoid valves and motors



An MCU and a section of process controller

Summary

We learnt

Applications

- Instrumentation,
- Handheld devices
- Communication systems
- Control Systems
- Peripheral Controllers
- Process Control Systems