BT-3000 Features

Wireless Embedded Training System, BT-3000 was developed to educate wireless control and embedded technology.
Its distinguished technology compared to wired embedded system is wireless control using Bluetooth protocol. Wireless embedded technology will be used in application of Home networking, Ubiquitous sensor networking, Telemetric and Industrial control in near future.
Through experiment using BT-3000 students learn hardware design and wireless communication protocol easily. Hardware design includes Controller and modules and software design including bluetooth communication protocol.

Wireless Embedded

BT-3000 Functions

- Embedded educational Training system by GUI control.
- Experiment of concentrated wireless embedded system using application module.
- General education to industrial embedded system.
- Software and Hardware training to each module.
- Experiment of Embedded programming using controller.
- Detail experiment using thirteen modules.
- Experiment of communication protocol Programming.
- Manufacturing of sensor hardware module.

Wireless Embedded Training System
Model: BT-3000

An experimental equipment to educate Wireless control and embedded Technology, application of Telemetric and Industrial product control.

Wireless Embedded Training System
Model: BT-3000

BT-3000 Training Contents

Part I. Introduction
- Chapter 1 Introduction to Wireless embedded System
- Chapter 2 Understanding of the PIC Microcontroller
- Chapter 3 Understanding of the Server Program and Its Operational principle
- Chapter 4 Understanding of the Bluetooth Technology

Part II. Basic Wireless
- Chapter 5 Inquiry Response to the wireless equipment
- Chapter 6 Connection to the wireless equipment
- Chapter 7 Wireless Data/Voice Communication
- Chapter 8 Disconnection to the wireless equipment

Part III. Wireless Application
- Chapter 9 Remote DC/STEP Motor Control
- Chapter 10 Remote Power/Current Control
- Chapter 11 Remote Temperature Sensor Control
- Chapter 12 Remote Infrared Sensor Control
- Chapter 13 Remote Touch Sensor Control
- Chapter 14 Remote Ultrasonic Sensor Control
- Chapter 15 Remote Gas Sensor Control
- Chapter 16 Remote Humidity Sensor Control
- Chapter 17 Remote Pressure Sensor Control

Reference
- A. Conn7 Pin Layout in the Slave board

BT-3000 Components

Main Server Package (BT-3000M)

• Server hardware	1 EA	• SPI cable	1 EA
• Server program CD	1 EA	• Textbook	1 EA
• Bluetooth module	1 EA	• Power adaptor(9V 1A, 50/60Hz)	1 EA
• Antenna	1 EA	• Carriage & Storage bag	1 EA
• USB cable	1 EA	• PIC16F877(DEMO)	2 EA
• UART cable	1 EA	• PIC16F877(PRACTICE)	2 EA
• Ear-microphone	1 EA		

Motor/Power Control Experiment Package(BT-3000SM)

• Slave Hardware	1 EA	• Antenna	1 EA
• Light Control 1	1 EA	• DC Motor	1 EA
• Current Control 2	1 EA	• Step Motor	1 EA
• Controller module	1 EA	• Power Adaptor(12V 1.5A, 50/60Hz)	1 EA
• DC Motor experiment module	1 EA	• Carriage & Storage Bag	1 EA
• Step Motor Exp. module	1 EA	• Ear-microphone	1 EA
• UART Cable	1 EA	• Electric bulb	1 EA
• SPI Cable	1 EA		

Sensor Control Experiment Package(BT-3000SS)

• Slave hardware	1 EA	• SPI Cable	1 EA
• Temperature sensing control module	2 EA	• Controller module	1 EA
• Infrared sensor control module	2 EA	• Antenna	1 EA
• Touch sensor control module	1 EA	• FAN motor	1 EA
• Ultrasonic wave control module	1 EA	• Power Adaptor(12V 1.5A, 50/60Hz)	1 EA
• Gas sensor control module	1 EA	• Carriage & Storage Bag	1 EA
• Pressure sensor control module	1 EA	• Ear-microphone	1 EA
• Humidity sensor control module	1 EA		
• UART Cable	1 EA		

BT-3000 RF Specifications

RF Specifications	**Chipset Maker**	CSR Core Chip Set (AirLogic Module)
	Chipset specification	Bluetooth Ver1.1 or 1.2
	Range	10m(Class2)
	Interfaces	UART, USB, SPI

BT-3000 Sensor Specifications

Sensor specifications			
Types	Temperature sensor (two types)	Temp. measurement (SMD type, Semiconductor type)	-40°~120°
	Infrared sensor (two types)	Transmitter / Receiver type, Detection type	5 ~ 20 [㎛] , within 3 [m]
	Touch sensor	Application to Security	Response immediately
	Ultrasonic wave sensor	Application to Security	Within 10[m]
	Gas sensor	Application to Home automation	CO2 or Alcohol
	Humidity sensor	Application to Home automation	0 ~ 100 [%]
	Pressure sensor	Application to Security	10 [psi]

BT-3000 Controller Specifications

Controller Specifications	**Chipset**	PIC16F877 or F74
	Speed	4 [MHz] ~ 20 [MHz]
	Interfaces	UART, I2C, SPI
	Functions	Interrupt, A/D converter, Timer