

- Ubiquitous

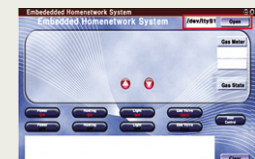
EMBEDDED BASED HOME NETWORK TRAINER

- Home network control in liaison with Embedded PXA 255/270/272/320
- Power line communication and ZigBee modules with Multi Port in use together
- Embedded
 - » System design using PXA270
 - » System upgrade simply by replacement of Embedded PXA255/270/272/320
 - » Embedded based LINUX porting and Device Driver
 - » Enhances GUI (Graphical User Interface) program coding abilities
 - » C-MOS Image Sensor
- Home Network
 - » Understanding of Home Network System and LonWorks System
 - » Design and experiments on power line communication
 - » Device control and binding Experiments using LonMaker (LonWorks Protocol)

New
ED-5967



- QT Program
(Embedded GUI)



- Initial Operation Screen
(Communication Port)



- Equipment Control Screen

> EXPERIMENTS

Embedded

- Introduction
- LINUX
- CDK(Cross Development Kit)
- JTAG(Joint Test Action Group)
- Boot loader(u-boot)
- Embedded Linux booting
- Embedded Linux porting
- Device Driver
- GPIO LED Device Driver
- LED Device Driver
- Network Program
- QT Installation
- QT Program Application

Home Network

- Home Network System
- Protocol
- LonWorks System
- LonWorks Device
- Definition of Device Interface
- Neuron C
- Commissioning
- Device Hardware Design
- Network Program
- MiniEVK Compiler
- Device F/W Programming
- LonMaker for Windows in utilization

ZigBee (Option)

- Overview of USN
- Software Installation
- Ad-hoc Network and Application
- TinyOS Installation and Folder Structure
- NessC
- LED Control using Task and Timer
- Radio Communication
- Wireless Communication
- Control of Home Network System

> SPECIFICATIONS

EMBEDDED PXA255/270/272/320

- CPU : INTEL PXA255/270/272/320(520MHz)
- Memory
 - » SDRAM 128MByte(32bit width)
 - » FLASH _ PXA255 : 32MByte , PXA270 : 32MByte
_ PXA272 : 64MByte , PXA320 : 128MByte
 - » SDRAM 1 MByte(32bit width)
- Serial Communication
 - » FF UART 1Port
 - » Standard UART 1Port
 - » Bluetooth 1Port
- Ethernet
 - » 10/100Base-T 1Port(LAN91C11)
 - » 10Base-T 1Port(CS8900)
- Display
 - » TFT-LCD, 7" wide
 - » Touch Screen
- Card Slot
 - » CF(Compact Flash) Card 1Slot
 - » SD/MMC Card 1Slot
- RTC : RTC4513
- USB
 - » Host 1Port
 - » Client 1Port
- C-MOS Image Sensor
 - » Hynix HYCA3(1/4) Camera module
- LED : 8ea
- Buzzer : 1ea
- Software : Qtopia, Linux, QT

HOME NETWORK

- Gas Leak Alarm
 - » Gas Detection : LNG, LPG
 - » Voltage : DC 12V
 - » Output Type : On/Off
 - » Alert beep sounds at the time of detecting gas
- Heater
 - » Open/Close : Electronic Valve Control
 - » Voltage : 12V
 - » Displays the valve's current status
- Lighting
 - » On/Off function
 - » Lighting control by PWM Method(0~9steps)
- Power Control
 - » On/Off function
 - » Control using TRIAC and Photo Coupler

PLC(POWER LINE COMMUNICATION)

- Processor
 - » PL3120 Transceiver
- Communication Channel
 - » Power line communication
- PL3120 F/W programming through LonMaker

ZIGBEE(OPTION)

- Processor
 - » ATmega128L, 8bit RISC
- Memory
 - » 128k Program Flash, 4k EEPROM
- Operating System
 - » F8W, TinyOS
- Multi Channel Radio
 - » 2.4/2.4835GHz
- Data Rate : 250kBaud
- RF Chip : CC 2420(IEEE 802.15.4)
- Power : 3.0~3.3V
- Interface
 - » RS-232, GPIO Port
- Program Download : J TAG

GENERAL CHARACTERISTICS

- Dimension : 690(W) x 180(H) x 420(D)mm
- Power
 - » Input Voltage : AC220V
 - » Embedded Board : DC +3V, DC +5V
 - » Power Line Communication : AC220V, DC +12V

ACCESSORIES

- SW CD (Program Source, Circuit Diagram, DataSheet)
- Serial Cable
- Power Cord
- Ethernet Cross Cable
- LPT Cable
- JTAG Downloader Cable
- User Manual

OPTIONS

- ZigBee Module : 4ea