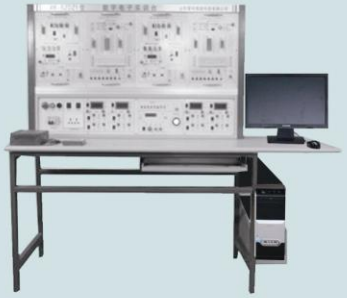
Electronic technology

XK-MSDZ1 electronics training set

Products overview:

project	content
product structure:	the modular desktop structure, hanging box replacement convenient, easy to organize various training project, expand and upgrade are convenient.
main parameters:	size 1700 mm x 700 mm x 1400 mm; The power supply: single-phase AC 220 V or 500 VA. weight:120kg
main components:	the experiment table, power control panel ,low voltage power supply module, the signal source module, analog circuit training module 1, analog circuit training module 2, digital circuit training module 1, digital circuit training module 2, transistor radio sets, bread board,common components.
main functions:	can finish middle and higher vocational analog electronic and digital electronic course of learning and training, tocomplete analog electronic and digital electronic comprehensive study and experiment; Have the security protection function.
annex:	components package, experimental jump line, experimental instruction,tool box, software disc, the product specification.



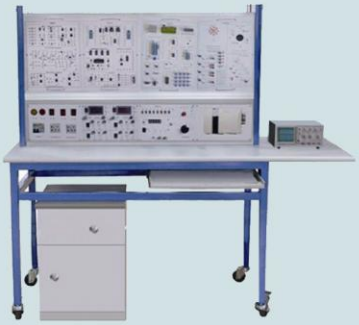
Training Projects:

1. Transistor switching characteristics
2. logic functions and testing of TTL logic gate
3. logic functions and parameter testing of CMOS integrated logic gate
4. Sound and light dual-control time delay switch circuit
5. Connection of combinational logic circuit
6. Experimental analysis of combinational logic circuit
7. Designing and testing of combinational logic circuit
8. Mono-pulse generating circuit
9. Understanding and application of decoder
10. Understanding and application of trigger
11. Understanding and application of counter
12. Logic function testing of 74164Integration shift register
13. Understanding and application of pulse distributor
14. Scissors, rock and cloth game circuit
15. Simple push-button password controller circuit
16. 555 functional test and mono-stable trigger
17. Duty cycle adjustable multi-vibrator consisted of 555
18. Schmitt trigger constituted of 555
19. Simple hypnotic device and music doorbell circuit consisted of 555
20. Ambulance audio circuit consisted of 555
21. D / A conversion experiments
22. A / D conversion experiments and applications

XK-DZZH2A analog – digital – microcontroller electronic training sets

Products overview:

project	content
structure:	the modular desktop eplacement convenient, easy to organize various training project, expand and upgrade are convenient.
main parameters:	size 1700 mm x 700 mm x 1400 mm; The power supply: single-phase AC 220 V or 500 VA.weight:120kg
main composition:	training platform, power control panel , analog electronic technology training module (1), analog electronic technology training module (2), and digital electronic technology training module (1), and digital electronic technology training module (2) and single-chip microcomputer training module, virtual instrument module, common components.
main functions:	analog electronic experiment, digital electronic experiment, SCM experiment; Can complete analog electronic and digital electronic and single chip microcontroller comprehensive experiment.
annex:	experimental jump line, commonly used tools, software disc, the product specification.



Training Projects:

1.Pulse generating experiment
2. Eight-digit logic-level output training
3. Buzzer alarm circuits training
4. Light cross display training
5. Data serial-in parallel-out training
6. Data parallel-in serial-out training
7. Nixie tube static status training
8. Nixie tube dynamic display training
9. Lattice block display training
10. Matrix keyboard training
11. External interruption training
12. Timer interruption training
13. 8155 parallel port extending training
14. Programmable parallel I/O interface 8155 timer training
15. Programmable parallel I/O interface 8155 extended RAM training
16. A/D conversion training
17. D/A conversion training
18. RAM6264 extending training
19. SPI bus interface chip E2PROM93C46 read and write training
20. I2C bus interface chip E2PROM24C04 read and write training
21. Character liquid crystal display (LCD) 1602C training
22. RS232 communication experiment
23. Music by singlechip experiment
24. DS1302 calendar clock experiment
25. DS18B20Temperature collecting of temperature transmitter training
26. Infrared communication training
27. Dual system communication training

XK-DP1 microcontroller experiment box (51 SCM)

Products overview:

project	content
product structure:	the experiment box structure, easy to carry.
main parameters:	the overall size: 500 x 340 x 165 mm;weight:10kg The power supply: single-phase AC 220V±5% 50Hz ≤45VA
main components:	the single-chip microcomputer smallest system module , commonly used extension device interface, programmable parallel I/O devices, data memory module, external program memory module, RS232 interface module, the LED display function module, step motor module, etc.
main functions:	can finish single-chip microcomputer and interface technology course of learning and training;
annex:	experimental jump line, commonly used tools, software CD, the product manual, download line.

Training Projects:

1. Singlechip simulating application
2. Chip programming
3. Pulse generating experiment
4. Eight-digit logical level output training
5. Buzzer alarm circuits training
6. Light cross display training
7. Data serial-in parallel-out training
8. Data parallel-in serial-out training
9. Nixie tube static status training
10. Nixie tube dynamic display training
11. Lattice block display training
12. Matrix keyboard training
13. External interruption training
14. Timer interruption training
15. Step motor control training
16. DC motor control training
17. Music by singlechip training
18. D/A conversion training
19. RAM6264 extension training
20. SPI bus PROM93C46 read-write training
21. I2C bus EPROM24C04 read-write training
22. Liquid crystal LCD(1602C) character display training
23. RS232 communication experiment
24. Music by singlechip experiment
25. DS1302 calendar clock experiment
26. Temperature collecting of temperature transmitter training
27. Infrared communication training
28. Dual system communication training

XK-EPM1001A microcontroller experiment box (PIC)

Products overview:

project	content
product structure:	the experiment box structure, inside contain the experiment area and twire storage area.
main parameters:	the overall size: 420 mm x 300 mm x 120 mm. ;The power supply: single-phase AC 220V±5% 50Hz ≤45VA.weight:10kg
main composition:	PIC16FXXX , series single chip minimize system,digital tube, 1602 LCD, relays, matrix keyboard, logic switch, bread board module, MPLAB ICD2-USB single chip microcontroller debugging and write device.
main functions:	can finish PIC single chip microcontroller and interface technology course of learning and training; function.
annex:	experimental jump line, commonly used tools, software disc, the product specification.

Training Projects:

1,The PIC microcontroller programming, support the model types are as follows:
PIC12F6xx (DIL8)
PIC16F62x, 16F8x (DIL18)
PIC16F87x, 18Fxxx (DIL28)
PIC16F87x, 18Fxxx (DIL40)
2,24 Cxx series of I2C memory chip (DIL8), read and write
3, the PIC type of the MCU identification

XK-EPM1101A PIC microcontroller programmer

project	content
Product Overview	PIC microcontroller programmer for the programming of the MICROCHIP PICmicro ® microcontroller program. Programming high-speed USB interface to the programmer and computer communications, combined with computer programming software WinPic-3.55g to be completed by most of the PICmicro ® microcontroller (DIL-8, DIL-18 and DIL-28 to DIL-40) can also be used to read and write I 2C memory chips (DIL-8).
main parameters:	1, The power supply:: PC, USB port powered, DC 5V, ≤ 100mA 2, Size: 180mm * 120mm * 40mm 3, Weight: 0.5 KG
main functions:	1,The PIC microcontroller programming, support the model types are as follows: PIC12F6xx (DIL8) PIC16F62x, 16F8x (DIL18) PIC16F87x, 18Fxxx (DIL28) PIC16F87x, 18Fxxx (DIL40) 2,24 Cxx series of I2C memory chip (DIL8), read and write 3, the PIC type of the MCU identification

Electronic technology

XK-MD1 analog electronic technology experiment box

Products overview:

project	content
product structure:	the experiment box structure, easy to carry.
main parameters:	the overall size: 500 (L) x 340 (W) x 165 (H); The power supply: single-phase AC 220 V 50 Hz , 45 VA. weight:10kg
main components:	the function signal generator, six unit circuit, IC expansion socket, extended experimente son-board interface function modules and the commonly used components.
main functions:	can finish analog electronic technology course of learning and training;
annex:	experimental jump line, commonly used tools, the product specification.

Training Projects:

1. Common used electrical instruments using.
2. Basic amplifying circuit experiment
3. Arithmetic unit amplifying circuit experiment
4. Differential amplifying circuit experiment
5. Instrument amplifying circuit experiment
6. Energy amplifying circuit experiment
7. Voltage-stabilized source circuit experiment
8. RC sine-wave oscillator experiment
9. LC sine-wave oscillator experiment
10. Function generator assembling and debugging
11. Voltage-frequency conversion circuit
12. Thyristor controllable rectification circuit
13. Temperature control circuit (application experiment)

XK-DSP1 high performance embedded DSP experiment box

Products overview:

project	content
product structure:	the experiment box structure, easy to carry.
main parameters:	the overall size: 500 (L) x 340 (W) x 165 (H). ;The power supply: single-phase AC 220V±5% 50Hz ≤45VA. weight:10kg
main components:	fixed-point TMS320F2812, extension 256 K * 16 SRAM, 512 K * 16 FLASH, 256 M * 8 bits of nandFLASH memory, integration Altera company CPLDchip EPM3128ATC100 and provide download interface, 8 segment digital tube interface, ledlight diode, independentbuttons, a buzzer and reset circuit, RS-232interface, CAN BUS2.0 interface, 485 interface, IIC interface, RTCinterface, AD input interface, other AD interface extended out, DA output interface , audio input/output interface, 12864 graphics LCD interface, 1602 characters LCD interface, a dc motor controlinterface (motor fixed in the experiment box), a stepping motor control interface(motor fixed in the experiment box), 6 road PWM output interface, SDcard interface, USB interface, from100 M network interface
main functions:	CSS software application experiment, DSP experiment, algorithm experiment
annex:	experimental download line, experimental jump line, commonly used tools, software disc, the product specification.

Training Projects:

1. The assembly language experiment
2. C language experiment
3. C language and assembly call each other experiments
4. DSP basic mathematical operations
5. A buzzer experiment
6. Key experiment
7. The timer experiment
8. External interruption experiment
9. Serial interface communication experiment
10. 485 communication experiment
11. The I2C experiment
12. Digital pipe display experiment
13. Liquid crystal display experiment
14. The RTC experiment
15. AD transform the experiment
16. DA conversion experiment
17. CAN communication experiment
18. Dc motor control experiment
19. Ac motor control experiment
20. The SD card reading and writing
21. Speech broadcast experiment
22. Outside enlarge RAM experiment
23. Outside enlarge NOR FLASH experiment
24. Outside enlarge NAND FLASH experiment
25. The network communication experiment
26. USB communication experiment
27. FLASH and write the experiment
28. Limited shock response filter (FIR) algorithm experiment
29. Infinite shock response filter (IIR) algorithm experiment
30. Fast Fourier transform (FFT) algorithm experiment

XK-ARM1 high performance embedded ARM9 experiment box

Products overview:

project	content
product structure:	the experiment box structure, adopt the way of the combination core board and the backplane , the integration of the most common interface, and preset bus interface and interface line resources, suitable for our expansion.
main parameters:	the overall size: 415 x 285 x 105 (mm); The power supply: single-phase AC 220 V 50 Hz or 45 VA.weight:10kg
main components:	Samsung S3C2440AL; 64 MB SDRAM , 256 MB NandFlash, 2 MB Nor Flash, RS232 interface, 485 interface, CAN interface, RTC interface, a buzzer interface, AD interface, IIC interface, audio input, audio output, SD card, the usb main interface, the usb interface, ps / 2 interface, IDE interface, network interface, 4 x4 keyboard interface, led interface, VGA interface, TFT LCD interface,infrared interface, camer interface.
main functions:	embedded software development experiment, basic interface experiment, embedded operating system experiment.
annex:	experiment download line, experiment jump line, commonly used tools, software disc, the product specification.

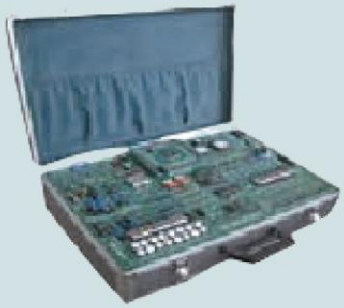
Training Projects:

1. The ARM development environment the understanding of the ADS debugging
2. ARM assembly instructions experiment
3. The Thumb assembly instructions
4. The ARM processor work model experiment
5. C language program experiment
6. Assembly and c language call each other experiments
7. LED lamp control experiment
8. The frequency PWM points
9. SPI communication experiment
10. Serial experiments
11. RS-485 communication experiment
12. The I2C reading and writing the experiment
13. CAN the experiment
14. The RTC experiment
15. AD experiment
16. 4 x 4 buttons experiment
17. TFT color LCD module experiment
18. The touch screen
19. VGA display interface experiment
20. The audio experiment
21. Infrared interface experiment
22. The SD card reading and writing
23. The network communication experiment
24. PS / 2 interface experiment
25. CMOS camera experiment
26. The uC/OS-II transplant experiment
27. UC/OS_II application experiment
28. Linux development, the establishment of the environment
29. The Bootloader transplantation
30. Linux kernel package with custom experiment
31. Linux drivers experiment
32. Linux file system experiment
33. Qt graphical interface experiment
34. Linux application experiment

XK-FPGA1 high performance EDA experiment box

Products overview:

project	content
product structure:	the experiment box structure, easy to carry.
main parameters:	size 500 x 340 x 165 mm;weight:10kg power supply: single-phase AC 220V±5% 50Hz ≤45VA.
main composition:	EDA son board, keyboard module, storage module, modulus analog-to-digital conversion module, the I2C interface chip, liquid crystal display module interface, RS232 interface, double color dot matrix modules, digital display module, multi-function pulse source, experimental connecting cables, audio power amplifier circuit, VGA display interface, the power modules, a buzzer, LED display module, electricity level switch module, USB interface module, and fixed frequency resource module.
main functions:	can finish based on FPGA related interface experiment and the expand experiment.
annex:	JTAG download cable, experiment jump line, commonly used tools, software disc, the product specification.



Training Projects:

1. four people adding machines
2. prescaler
3. trigger
4. add and subtract counter
5. digital stopwatch
6. LED control experiment
7. a buzzer control experiment
8. csaladfai, static shows the experiment
9. csaladfai, dynamic scanning experiments
10. key recognition experiment
11. EEPEOM experiment
12. liquid crystal display experiment
13. VGA display experiment
14. .and serial interface communication experiment
15. PS2 keyboard experiment
16. DS1302 experiment
17. DS18B20 experiment
18. SD card experiment
19. infrared experiment
20. AD experiment
21. DA experiment
22. motor drive experiment
23. network communication experiment
24. a digital clock
25. the frequency meter
26. light
27. vies to answer first device

Electronic technology

XK-ELC1001A transistor and Operational Amplifier experimental box

Products overview:

Product Overview	The experimental box is mainly used for the operational principle of grounded-emitter, transistor,thermistor,photoresistance and the application of transistor BD137,supporting μA, 741 or TL 081 op amplifier chip, to achieve noninverting, inverting amplifier, adder, subtractor, comparator, comparator, integrator, and oscillation circuit. The experimental box panel with power indicator, using a modular structure attached without desoldering the installation template。
Key performance index	1、Supply voltage：AC220V±10%,50HZ,≤100W 2、Working environment: no dust, oil mist and corrosive gases 3、Operating Temperature：0~+50℃ 4、Storage Temperature：-20℃~+80℃ 5、Humidity：40~90%RH 6、Size：370*220*120（L*W*H） 7、Weight：<2KG
Main function	1, to learn the grounded-emitter work principle of diode. 2, to learn the working principle of the thermistor 3.to learn the working principle of photoresistor 4.to learn the working principle and usage of transistors DB137 5.the noninverting experiments 6.the inverting scaling experiments 7, the adder experiments 8, subtraction experiments 9.comparator experiments 10.comparator experiments 11, integrator experiments 12, the oscillation circuit experiments

XK-ELC1002A logic circuits (TTLCMOS) experimental Chamber

Product Overview	The experimental box is mainly used for learning the works constituted by the TTL and CMOS logic gate door or gate, NAND gate etc. Connection Using K4 jack with a safety sheath, with the schematic diagram of the logic gates. The experimental box TTL circuit chip: NAND gate 74LS04, with the gate 74LS08 NAND gate 74LS00 and CMOS circuit chip: the non-gate CD4069, CD4081 and door NAND gate of CD4011 two toggle switches, 8 LED status display , 5V \ 12V \ 0V terminals, each terminal 4mm safety jack.
Key performance index	1, Supply voltage: AC220V ± 10%, 50HZ, ≤ 100W 2, size: 370 * 330 * 120 (L * W * H) 3, Weight: <2KG
Main function	1, learning constituted by TTL gate works 2, learning the works constituted by TTL or door Learning constituted by the TTL NAND gate works 4, learning the door works constitute by CMOS 5, learning constituted by the CMOS gate works 6, learning the works constituted by the CMOS NAND gate 7, the combination of logic experiment

XK-ELC1003A CNA-CAN experimental Chamber

Product Overview	CNA-CAN test box consists of eight buttons, eight LEDs, 8-bit resolution DA converter circuit, 8-bit resolution AD converter circuit, suitable for students learning the AD converter and DA converter works. With power indicator。
Key performance index	1, Supply voltage: AC220V, 50Hz 2, the whole current: ≤ 500mA 3, size: 450mm * 330mm * 120mm (L * W * H) 4, Weight: 2KG 5, Working environment: Temperature: 0 to +50 ° C, Humidity: 40 to 90% of RH
Main function	1, to learn the 8 resolution DA converter works 2, study 8 resolution AD converter works
Accessories	1、Single-phase power line 1 2、K4mm experimental connection 2（different colors） 3、protective tube 2 4、Certificate 1 5、Product manual and experiment guide book (English) 1

XXK-ELC1004A modulation – demodulation experimental Chamber

Product Overview	The experimental box by the integrated circuit is mainly used to study the modem works, wiring using K4 jack with a safety sheath, experimental box with the product manual. Matching the power indicator.
Main function	Third, the main function 1, to learn the working principle of the modulator 2, study the working principle of the demodulator
Accessories	1、Single-phase power line 1 2、K4mm experimental connection 10（different colors） 3、protective tube 2 4、Certificate 1 5、Product manual and experiment guide book (English) 1