COMPANY PROFILE

Leap Electronic was established in 1980 located in Taipei Taiwan. With great experienced employees, Leap has dedicated on test equipment and provided a whole and perfect environment of development. Additional, the Company has been qualified by major IC manufacturer such as ATMEL, AMD, MICRO-CHIP, WINBOND,etc.

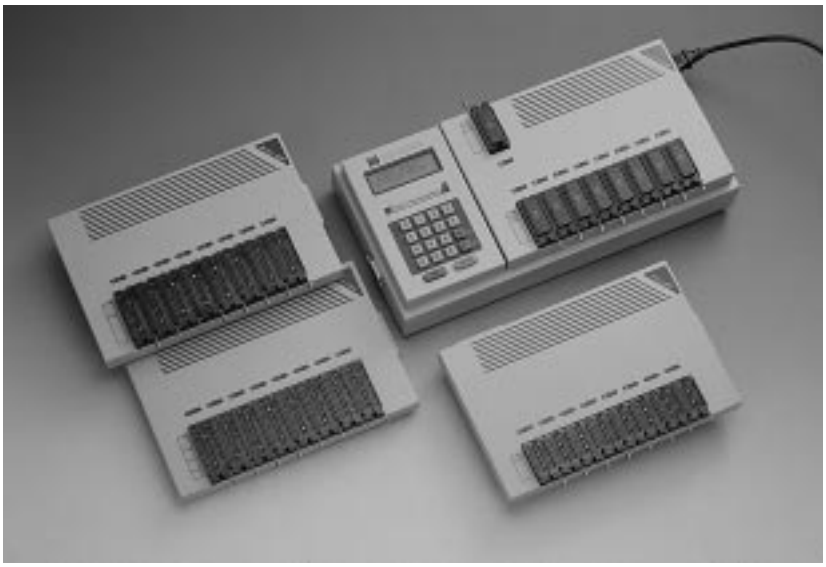
Leap is known for developing products under its own name. The Company currently offers four types of product lines which are Programmer, Emulator, Tester, Protector. They are developed and manufactured by using a broad range of processes and methods.

Programmer which is providing in a wide variety of modules has dominated the priority in Leap for a long time. To meet the demands of mass production,Gang Programmer SU-2000 is the revolutionized product released in the mid 1997.

Leap's mission is to produce equipment which is high-performance, low-cost and user-friendly. To achieve success, Leap recruit more and better RD members who have great telents in related area. The RD group always hold up-to-date concepts researching more innovative products.

Leap is proud of its world leading production technologies which have earnedLeap accredited under the TUV ISO 9002 official standard systems.

Being a manufacturer and an exporter, the company has successfully developed a suitable amount OEM business with some international companies yet still maintain reasonable share for distribution channel. The distributors of Leap are located widely in five continents. Although, more partners who can enhance our product spreading is welcome.



The SU-2000 is another revolutionized product LEAP's which is not only "Stand-Alone", "stable" and "speedy" but also modular designed. As soon as simply changing the"Cartridge modules" you can have all sorts of special IC programming systems.

The SU-2000 offers two modes of operation. For operation in a stand-alone environment.You can use the SU-2000 smart and easy-operation keypad and 20 X4 LCD character display.Or, for greater flexibility and control our complete programming operation, the SU-2000 can be driven under Windows 3.1/95 environment

Benefits of The Cartridge Design:
More Conveniently:
The ability to quickly change Cartridge for new device, easy and convenient.
More Economically:
For new devices, only need to change Cartridge, you do not need to buy another
main module, fully-utilizing, saving-money and economical.

The Features:

1. New devices updatable through printer port.
2. Supports gang/set programming for E/EPROMs, Flash, Gal, and Microcontrollers..etc, just simply change the Cartridge modular. ¡
3. Includes optional software for the PC, an easy-to-use Windows basis.
4. Includes console keyboard for use without a PC host.
5. Support of the "green" low-voltage devices.
6. DC parameter test.
7. Convenient pseudorandom test for functional simulation for necessary Cartridge module.

Functional Specifications:@

*User RAM:1MB
*Keyboard:18-key keypad
*Display:20 ¡Ñ4 LCD character display
*Output / Input: Parallel port (printer port)
*Control Mode: Local mode
*Transmitted formats: INTEL HEX, MOTOROLA HEX, SIGNETICS HEX, ASCII HEX, BINARY,....etc.

Standard Accessories:

One SU-2000 main module with any one Cartridge module; please indicate the Cartridge module type when you order.

*Software disk x 1
*User's manual x 1
*Power cable x 1

Optional Accessories: ¡

Cartridge modules
*Windows operating software
*Printer cable

Electrical Requirements:

*Operation Voltage:90VAC to 240VAC
*Frequency Range:40 to 60Hz
*Power Consumption:65W maximum

Physical & Environmental Specifications:

*Main Module Dimensions: 39x19.5x6cm
*Main Module Weight:3.5 kgs
*Cartridge Module Weight:26.5x17.2x2cm
*Cartridge Module Weight:1 kgs
*Temperature: +5c to + 45c
*Humidity: to 90% noncondensing
*Altitude: to 5000

FLASH-328D

8 socket module support for 24,28,32 pin DIP EPROM, EEPROM and FLASH

FLASH-328P

8 socket module support for 32-pin PLCC over 1M bits EPROM, EEPROM and FLASH

FLASH-328PA

8 socket module support for 32-pin PLCC under 1M bits EPROM, EEPROM and FLASH

PIC1-408D

8 socket module support for 8-40 pin DIP MICROCHIP Microcontroller PIC1 series

(PLCC ADAPTOR AVAILABLE)

PIC2-408D

8 socket module support for 8-40 pin DIP MICROCHIP Microcontroller PIC2 series

(PLCC ADAPTOR AVAILABLE)

PLD-248D(20SB)

8 socket module support for PLD in 20-pin PLCC

PLD-248D(28SB)

8 socket module support for PLD in 28-pin PLCC

SEEPROM-248D

8 socket module support for SEEPROM in 20-pin DIP

SEEPORM-248D(SOP)

8 socket module support for SEEPROM in 16-pin SOP

EPM7032/64LC44

8 socket module support for ALTERA 7032/64 in 44-pin PLCC

MCS-51

8 socket module support for 8051 series in 40-pin DIP

MCS-51P

8 socket module support for 8051 series in 44-pin PLCC

AVR

8 socket module support for ATMEL AVR in 20,40 pin DIP

NT-68PX SERIAL

8 socket module support for NOVATEK NT68P22/61/62/81 in 40-pin DIP and 42-pin SDIP

P87C SERIAL

8 socket module support for PHILIPS P87C380 in 42-pin SDIP

FLASH-328D

General Type
AT28C04 AT28C16 AT28C17 AT28C64
AT28C256 AT28C010 AT28C040 AT29C256
AT29C257 AT29C512 AT29C010 AT29C020
AT29C040 AT20C040A 28F256A 28F512
28F010 28F020 Am29F010 Am29F040
2732 27C64 27C128 27C256
27C512 27C010 27C020 27C040
27C080
AMD
Am28F256 Am28F256A Am28F512
Am28F512A Am28F010 Am28F010A
Am28F020 AmF020A AM29F002B
Am29F002T Am29F010
Am29F040 Am27C64 Am27C128
Am27C256 Am27C512 Am27C010
Am27C020 Am27C040 Am27C080
Atmel
AT27C256R AT27C512 AT27C010
AT27C020 AT27C040 AT27C080
AT27LV512 AT27LV010
AT28C04 AT28C16 AT28C17
AT28C64 AT28C64B AT28HC64
AT28HC64B AT28PC64 AT28C256
AT28HC256 AT28C010 AT28C040
AT29C256 AT29C257 AT29C512
AT29C010 AT29C010A AT29C020
AT29C040 AT29C040A
CATALYST
CAT28C16A CAT28C17A CAT28C64B
CAT28C65B CAT28CCAT28F512 CAT28F010
CAT28F020 28F001T
28F002T 28F002B
CYPRESS
CY27C512 CY27C010 CY27H256
CY27H010
EXEL
XL2816A XL28C16A XL28C16B XL2864A
XL2864A XL28C64 XL28C64B XL28C65A
XL28F010 XL28F020
Fujitsu
MBM29F010 MBM29F040 MBM29F002B
M29F002T
Hitachi
HN28F101G HN27C256AG HN27512G
HN27C101AG HN27C4001G HN58V65A
Intel
28F001BXT 28F001BXB 28F002BCT
28F256A 28F512 28F010
28F020 2732 2764
27C64 27128 27256
27512 27010
ISSI
IS28F010 IS28F020 27C256 27C512
27C010 27C020
MICROCHIP
28C04A 28C16A 28C17A 28C64A
27C64 27C128 27C256 27HC256
27C512 27C512A
MXIC
MX28F1000 MX28F1000P MX28F2000P
MX28F4000 MX27C256 MX27C512
MX27C1000 MX27C2000 MX27C4000
MX27C8000 MX26C512A MX26C1000A
NS
NMC27C32B NMC27C64 NMC27C64B
NMC27CP128 NMC27C128B NMC27C128C
NMC27C256 NM27C256B NM27C256C
NM27C512A NMC27C010 NMC27C020
SGS -THOMSON
M28C64C M2732A M27C64A M27C256B
M87C257 M27C512 M27C1001 M27C2001
M27C4001 M29F002T
SST
29EE512 29EE010 29EE020 28SF040
TI
TMS28F512A TMS28F010 TMS28F020
TMS27C256 TMS27C510 TMS27C512
TMS27C010A TMS27C020 TMS27C040
TMS28F512A TMS28F010 TM27C256
TMS27C512 TM27C510 TMS27C010A
TMS27CO20 TMS27C040
Winbond
W27F256 W27F512 W27F010 W27E256
W27E512 W27E010 W29EE512 W29EE011
W27E257 W27E040 W29C010 W29C020
W29C040

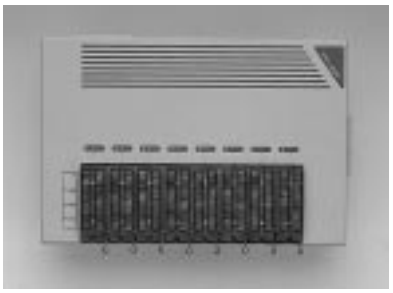
FLASH-328P/PA

FLASH-328P

GENERAL TYPE
AT28C010 AT28C040 AT29C257
AT29C512 AT29C010 AT29C020
AT29C040 AT29C040A 28F256A
28F512 28F010 28F020
Am29F010 Am29F040 27C010
27C020 27C040 27C080
AMD
Am28F256 Am28F256A Am28F512
Am28F512A Am28F010 Am28F010A
Am28F020 Am28F020A Am29F010
Am29F040 Am27C010 Am27C020
Am27C040 Am27C080 Am29F002B
Am29F002T
ATMEL
AT27C010 AT27C020 AT27C040
AT27C080 AT27LV010 AT28C010
AT28C040 AT29C257 AT29C512
AT29C010 AT29C010A AT29C020
AT29C040 AT29C040A AT49F010
AT49F020 AT49F040
CATALYST
CAT28F001-T CAT28F512 CAT28F010
CAT28F020 28F002T 28F002B
CYPRESS
CY27C010 CY27H010
EXEL
XL28F010 XL28F020
FUJITSU
MBM29F010 MBM29F040 29F002B 29F002T
HITACHI
HN28F101G HN27C101AG HN27C4001G
INTEL
28F256A 28F512 28F010
28F020 28F001BX-T 28F001BX-B
28F002BC-T 27010
ISSI
IS28F010 IS28F020 27C010
27C020
MXIC
MX28F1000 MX28F1000P MX28F2000P
MX28F4000 MX27C1000 MX27C2000
MX27C4000 MX27C8000 MX26C1000A
NS
NMC27C010 NMC27C020
SGS-THOMSON
M27C1001 M27C2001 M27C4001
M29F002T
SST
29EE512 29EE010 29EE020
TI
TMS28F512A TMS28F010 TMS28F020
TMS27C510 TMS27C010A TMS27C020
TMS27C040
WINBOND
W27F010 W27E010 W29EE512
W29EE011 W27E040 W29C010
W29C020 W29C040

FLASH-328PA

CYPRESS
CY27C512 CY27H256
GENERAL TYPE
AT28C17 AT28C64 AT28C256
AT29C256 27C64 27C128
27C256 27C512
AMD
Am27C64 Am27C128 Am27C256
Am27C512
ATMEL
AT27C256R AT27C512R AT27LV256
AT27LV512 AT28C17 AT28C64
AT28C64B AT28HC64 AT28HC64B AT28PC64
AT28C256 AT28HC256
AT29C256
CATALYST
CAT28C17A CAT28C64B CAT28C65B
CAT28C256
EXEL
XL2864A XL28C64 XL28C64B
XL28C65A
HITACHI
HN27C256AG HN27512G HN58V65A
INTEL
2764 27C64 27128 27256 27512
ISSI
27C256 27C512
MICROCHIP
28C17A 28C64A 27C64 27C128
27C256 27HC256 27C512 27C512A
MXIC
MX27C256 MX27C512 MX26C512A
NS
NMC27C64 NMC27C64B NMC27CP128
NMC27C128B NMC27C128C NMC27C256
NMC27C256B NMC27C256C NMC27C512A
SGS-THOMSON
M28C64C M27C64A M27C256B
M87C257 M27C512
TI
TMS27C256 TMS27C512
WINBOND
W27F256 W27F512 W27E256
W27E257 W27E512



PIC1-408D

Microchip
PIC12C508 PIC12C509 PIC14000
PIC16C61 PIC16C62 PIC16C62A
PIC16C63 PIC16C64 PIC16C64A
PIC16C65 PIC16C65A PIC16C71
PIC16C72 PIC16C73 PIC16C73A
PIC16C74 PIC16C74A PIC16F83
PIC16CR83 PIC16C84 PIC16F84
PIC16CR84 PIC16C554 PIC16C556
PIC16C558 PIC16C620 PIC16C621
PIC16C622 PIC16C710 PIC16C711
PIC16C923 PIC16C924

PIC2-408D

Microchip
PIC16C52 PIC16C54 PIC16C54A PIC16C55
PIC16C56 PIC16C57 PIC16C58A PIC17C42A
PIC17C43 PIC17C44

PLD-248D-20SB
(FOR 20 PIN PLCC)

AMD
PALCE16V8H PALCE16V8Q PALCE16V8Z
ATMEL
ATF16V8B ATF16V8BL ATF20V8B
ICT
PEEL18CV8
LATTICE
GAL16V8A GAL16V8B GAL16V8C
GAL16V8D GAL16V8Z
NS
GAL16V8A
SGS-THOMSON
GAL16V8A

PLD-248D-28SB
(FOR 28 PIN PLCC)

AMD
PALCE20V8H PALCE20V8Q
PALCE22V10H PALCE22V10Q
ATMEL
ATF20V8BL ATF22V10B ATF22V10BL
ICT
PEEL22CV10A PEEL22CV10A+
LATTICS
GAL20V8A GAL20V8B
GAL22V10 GAL22V10B
NS
GAL20V8A GAL22V10
SGS-THOMSON
GAL20V8A GAL22V10

EPM7032/64LC44

ALTERA
EPM7032 EPM7064

SEEPROM-248D

ATMEL
AT24C01 AT24C02 AT24C04
AT24C08 AT24C16 AT59C11 (x16)
AT59C11 (x8) AT59C12 (x16) AT59C12 (x8)
AT59C13 (x16) AT59C13 (x8) AT93C46 (x16)
AT93C46 (x8) AT93C56 (x16) AT93C56 (x8)
AT93C66 (x16) AT93C66 (x8)
CATALYST
CAT24C01 CAT24C02 CAT24C04
CAT24C08 CAT24C16 CAT24C32
CAT24C64 CAT24WC01 CAT24WC02
CAT24WC04 CAT24WC08 CAT24WC16
CAT24WC32 CAT24WC64 CAT33C104 (x16)
CAT33104 (x8) CAT35C102 (x16)
CAT35C102(x8) CAT35C104 (x16)
CAT35C104 (x8) CAT59C11 (x16)
CAT59C11 (x8) CAT93C46/A (x16)
CAT93C46 (x8) CAT93C56/A (x16)
CAT93C56 (x8) CAT93C57 (x16)
CAT93C57 (x8) CAT93C66/A (x16)
CAT93C66 (x8) CAT93C86 (x16)
CAT93C86 (x8) CAT93C86A (x16)
EXEL
XL24C01A XL24C02 XL24C04 XL24C08
XL24C16 XL24E16 XL9020 XL9040
XL93LC06 (x16) XL93LC46/A (x16)
XL93LL46(x16) XL93LC56/A (x16)
XL93LL56 (x16) XL93LC66/A (x16)
XL93LL66 (x16)
HITACHI
BR9020
ISSI
IS24C02 IS24C02-3 IS24C04
IS24C04-3 IS93C46-3 (x16)
IS93C56-3 (x16) IS93C66-3 (x16)
MICROCHIP
24AA01 24AA02 24AA04 24AA08
24AA16 24AA164 24AA174 24AA32
24C01A 24C02A 24C04A 24C08B
24C16B 24C32 24LC01B 24LC02B
24LC04B 24LC08B 24LC16B
24LC164 24LC174 24LC32
59C11(x16) 59C11(x8) 85C72
85C82 85C92 93AA46(x16)
93AA46(x8) 93AA56(x16) 93AA56(x8)
93AA66(x16) 93AA66(x8) 93C06(x16)
93C46(x16) 93C56(x16) 93C56(x8)
93C66(x16) 93C66(x8) 93LC46/A (x8)
93LC46/B(x16) 93LC56/A(x8) 93LC56/B(x16)
93LC 66/A(x8) 93LC66/B(x16)

MCS-51

ATMEL
AT89C51 AT89C52 AT89LV51
AT89LV51 AT89LV52 AT89C55
AT89LV55 AT89S8252 AT89LS8252
AT89S53
INTEL
8751H 8752H 8751BH 8752BH
87C51 87C51FA 87C51FB 87C51FC
87C52 87C54 87C58
PHILIP
P87C51 P87C51FA P87C51FB
P87C51FC P87C51RA+ P87C52
P87C528 P87C54 P87C58
P89C138 P89C238 P89C52
P89C54 P89C738
LG SEMICON
GMS97C51 GMS97C52 GMS97C58
WINBOND
W78E51 W78E52 W78E54 W78E58

MCS-51P

ATMEL
AT89C51 AT89C52 AT89LV51
AT89LV51 AT89LV52 AT89C55
AT89LV55 AT89S8252 AT89LS8252
AT89S53
INTEL
8751H 8752H 8751BH 8752BH
87C51 87C51FA 87C51FB 87C51FC
87C52 87C54 87C58
PHILIP
P87C51 P87C51FA P87C51FB
P87C51FC P87C51RA+ P87C52
P87C528 P87C54 P87C58
P89C138 P89C238 P89C52
P89C54 P89C738
LG SEMICON
GMS97C51 GMS97C52 GMS97C58
WINBOND
W78E51 W78E52 W78E54 W78E58

AVR

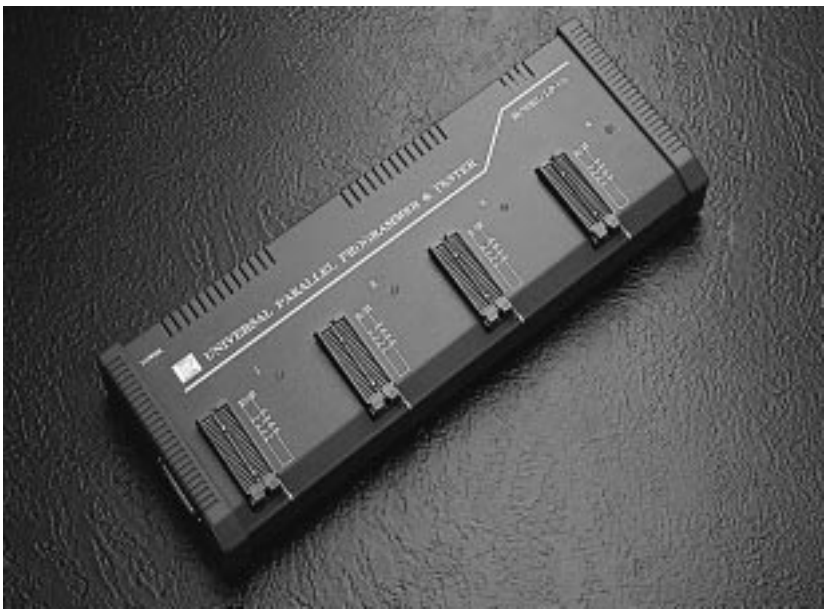
ATMEL
AT89C1051 AT89C2051 AT90S1200
AT90S2313 AT90S4414 AT90S8515

NT-68PX SERIAL

NT68P61 NT68P62 NT68P81

P87C SERIAL

P87C380



The LP-U4 is the high-end system of the LEAP family. It satisfies all of the requirements from R&D Dept., production line and QC Dept.

Affords to program or test 4 pcs devices through 42 pins simultaneously. Every socket is supplied with the integrate independent driver circuit which results in higher productivity. No more add-on card is needed for the implement of the parallel port interface, thus the range of the operation is not limited.

Features:

* Supports more than 66 manufacturers of semiconductors and can be expanded support devices by floppy disk.
* Capable to high efficient simultaneously program or test 4 devices.
* Convenient printer port connection to any IBM compatible PC or Notebook.
* Only 120 seconds are used to program and verify four 27C040 EPROM's.
* Supplies the batch function with the project file of the text mode.
* Up to 42x4 bi-directional signal pins.
* Equipped with auto-switch 110/220V power supply

Support Device List:

EPROM, EEPROM, Serial ,EEPROM, FLASH EPROM, PAL, ISPLSI, GAL, PEEL, TTL,PLD, MACH, CMOS, MAX,Microcontroller, SRAM/ DRAM, I/O chip

Physical & Environmental Specifications:

* Dimension 41.5x15x4.5cm
* Weight:0.5kgs
* Temperature: +5 C to + 45C
* Humidity: to 90% noncondensing
* Altitude: to 5000m

Standard Accessories:

* main unit x1
* driver software disk x1
* user's manual x1
* printer port cable x1

Optional Accessories:

* full range adaptors
* Software for Serial number

LEAPER-10 HANDY UNIVERSAL WRITER

The ***LEAPER-10*** provides advanced, universal device programming support at an affordable price . The *LEAPER-10* support varied-package devices in the market by its 42-pin socket and the optional full range adaptors.

The ***LEAPER-10*** integrates powerful hardware and software to perform high quality. It can verified and test a controlled impedance environment from the programmer I/O, Vpp, Gnd,and power source.

The most attraction of the ***LEAPER-10*** is following 4T products policy, i.e. Light, Thin, Short, Tiny. Concerning the concept of environmental protection, the ***LEAPER-10*** avoids unnecessary over-package. ***LEAP*** is doing her responsibility for the earth.

The ***LEAPER-10*** owns polyglot function. No matter what kind of language you would like to operate you may amend by yourself.

In addition, the ***LEAPER-10*** supplies the batch function with the project file of the text mode. The project file can be edited with any text editor to modify some working conditions, such as the setting the device type and parameters, and the processing procedure.

Features

- Small, light, portable and professional design, usable with batteries
- Convenient and efficient printer port connection to any IBM compatible PC, Notebook
- Support more than 66 manufactures of semiconductors and can expand functions and devices by floppy disk
- System is upgradeable by adding additional module
- Support disassembler function for MCS-48, MCS-51, PIC-16C5X, PIC16C6X,PIC16C7X,PIC16C8X, PIC17C4X,Z8
- Support Macro key function, able to record selected device in to memory and recall by press a key.

Standard Accessories

- main unit
- 25-pin printer connect cable
- DC 12V/2A power adaptor
- driver software disk
- operation manual

Option

- full range adaptors

Physica& Environmental Specifications

- Dimension:16cm X11cm X4.5cm
- Weight:0.5kgs
- Temperature:+5Cto +45C
- Humidity:to 90% noncondensing
- Altitude: to 5000m

EMC standards

(per 89/336/EEC)

EN50081-1	EN50082-1
EN55022 Class B	IEC801-2
EN60555-2	IEC801-3
EN60555-3	IEC801-4

Supported Devices

- EPROM:24 to 42-pin 8/16 bits EPROM and OTP ROM
- EEPROM:24 to 32-pin EEPROM series
- EPROM:Atmel 5V flash EPROM
- Flash EPROM:28 to 32-pin 12V or 5V flash EPROM
- Nonvolatile RAM series
- Serial EEPROM:93Cxx¡B24Cxx family EEPROM
- MCS-48:MCS-41 and MCS-48 family
- MCS-51:MCS-44 and MCS-51 family
- Z-8:SGS,ZILOG
- PIC¡GMicrochip PIC 16Cxx, 17Cxx,12Cxx family
- 68xxx family:Motorola 68705xx,68HC705C8, 68HC711xx family (adaptor)
- Motorola 67HC705C8 family (adaptor)
- Biporal PROM:AMD,Fujitsu, MMI,NS,Signetics,TI...
- PLD,PAL,EPLD,EEPLD,FPL, GAL,PEEL,CPL,CMOS PAL: AMD,ATME,Cypress, HYUNDAI,ICT¡,GOULD,Lattice
- TTL/CMOS:54/74 family and 40/45 family
- DRIVE:75 family and 2003....
- RAM:Static RAM and Dynamic RAM family (function test)
- Dynamic RAM module series (30-pin SIP/SIMM package adaptor)
- I/O Chip:PIA,PIO,PPI, PIC...

LEAPER-5 is specially designed for 8x51 series, integrating powerful hardware and software to perform high quality. It is the best choice to program 8x51 series device.

The most attraction of the *LEAPER-5* is following 4T products policy, i.e. Light, Thin, Short, Tiny. Concerning the concept of environmental protection, the *LEAPER-5* avoids unnecessary overpackage.Leap is doing her responsibility for the earth.

Features

*Small, portable light and usable with batteries
*Convenient and efficient printer port connection to any IBM compatible PC, Notebook
*Able to set progrmming flow chart, voltages, pulse width & other parameters
*Powerful full screen HEX or ASCII memory edit
*User define Micro key to save time
*Support file format Binary code, Intel HEX & 80/86 HEX
*Support MCS-51 disassembler function

Standard Acessories

*Emain unit
*Eprinter connect cable
*EDC 9V/500mA power adaptor
*Edriver software disk
*Eoperation manual

Option Acessories

*44-pin PLCC adaptor

Physical & Environmental Specifications

*Dimension: 16cmx11cmx4.5cm
*Weight:0.42kgs
*Temperature: +5cto +45c
*Humidity: to 90%noncondensing
*Altitude: to 5000m

Supported Devices

AMD
8751H, 8753H, 87C521, 87C541
ATMEL
AT89C51, AT89C52
INTEL
87C51, 8751H, 8751BH, 87C51FA,
87C51FB, 8752, 8752H, 8752BH, 87C252
PHILIPS
87C451, 87C52, 87C528, 87C652, 87C654

LEAPER-3 HANDY EPROM WRITER

LEAPER-3 is specially designed for EPROM series, integrating powerful hardware and software to perform high quality . It is the best choice to program EPROM series device.

The most attraction of the ***LEAPER-3*** is following 4T products policy, i.e. Light, Thin, Short, Tiny. Concerning the concept of environmental protection, the ***LEAPER-3*** avoids unnecessary over-package. ***LEAP*** is doing her responsibility for the earth.

Features

*Small, portable, light & usable with batteries

*Two types of high efficient work mode:

1. Stand-along mode: operate with 5 function keys:
   (1)functions set
   (2)IC type select
   (3)blank check
   (4)verify & check sum
   (5)program
2. PC based mode: transmit data via printer port, able to connect to any IBM compatible PC, Notebook

*LCD display: 16 x 2 characters

*Software operation contains: type/ read/ check/program/ verify/ disk/ help/ process/ parameter

*Can set programming flow chart, voltages, pulse width & other parameters

*Powerful HEX/ASCII memory and fusemap, test library and full screen edit

*Support file format Binary code, Intel HEX & 80/86 HEX

Standard Accessories

*main unit
*printer connect cable
*DC 9V/500mA power adaptor
*driver software disk
*operation manual

Physical & Environmental Specifications

*Dimension:16cm X11cm X4.5cm
*Weight:0.5kgs
*Temperature:+5C to +45C
*Humidity:to 90% noncondensing
*Altitude: to 5000m

EMC standards

(per 89/336/EEC)

EN50081-1	EN50082-1
EN55022 Class B	IEC801-2
EN60555-2	IEC801-3
EN60555-3	IEC801-4

Supported Devices

EPROM
2732 - 27080
EEPROM
2817 ¡ B2864 ¡ B28256 ¡ B28010
FLASH EPROM
28F256 - 28F020 ¡ B28F4000 ¡ B
AT29C256-AT29C040 ¡ B
AM29F010 - AM29F040
SRAM
6264 - 628512

LEAPER-2 HANDY LINEAR IC TESTER

Features

- Easy-operating Tester, particularly be designed for the Linear IC
- Small, portable, light and power-saving, usable with batteries
- Average search time: 0.8 second
- Display: 16 characters in 1 line
- Test Pins: 8 to 16 pins
- Tester voltage: +/-5V
- Equipped with empty-load test, and function of Auto Power Off

Standard Accessories

- main unit
- printer connect cable
- DC 9V/500mA power adaptor
- operation manual

Physical & Environmental Specifications

- Dimension:16cm x11cm x4.5cm
- Weight:0.34kgs
- Temperature:+5c to +45c
- Humidity:to 90% noncondensing
- Altitude: to 5000m

EMC standards

(per 89/336/EEC)

EN50081-1	EN55022
EN60555-2	EN60555-3
EN50082-1	IEC801-2
IEC801-3	IEC801-4

Supported Devices

OP

(OPERATIONAL AMPLIFIERS, COMPARATORS)

OPERATIONAL AMPLIFIERS

LM101 LM310 TL022 LF347
UA741 LM107 LM318 TL061
LF351 UA747 LM108 LM324
TL062 LF353 UA748 LM118
LM348 TL064 LF355 OP07
LM124 LM358 TL071 LF356
OP27 LM148 LM1458 TL072
LF357 OP37 LM158 LM2900
TL074 LF411 OP42 LM201
LM2902 TL081 LF412 OP90
LM207 LM2904 TL082 ICL7611
OP97 LM208 LM3900 TL084
ICL7621 OP290 LM218 LMC660
TL094 ICL7641 OP490 LM224
CA358 MC3303 ICL7642 TLC252
LM248 CA3130 MC3403 AD648
TLC272 LM258 CA3140 MC3503
AD711 LP124 LM301 CA3160
MC34004 D712 LP324 LM307
CA3240 NE5532 LT1013 HA17324
LM308 CA3260 NE5534 LT1014
UPC451 RC4558 C4082

COMPARATTORS

LM139 LM193 LM239 LM293 LM339
LM393 LM2901 LM2903 LM3302 LP239
LP339 LP2901 TLC339 TLC393

OPTO (OPTOCOUPLERS)

4N25 4N26 4N27 4N28 4N29 4N32
4N33 4N35 4N36 4N37 4N38 4N45
4N46
TIL111 TIL116 H11A1 H11B1 H11D1 H11D2 H11D3
H11D4 CNY75 MCT2 PC817 PC827
PC837 PC847 K827P K847P

REG. (VOL TAGE REGULATORS)

UA7805... (LM2930 - 5.0, LM2931 - 50, LM2940CT - 5.0)
UA7806... (need to use DC adaptor)
UA7905
LM217 LM317

SPECIAL FUNCTIONS DEVICE

NE555 NE556 TLC555 TLC556 4016 4066 723

TRANSISTOR ARRAY

ULN2001 ULN2003 ULN2004 ULN2005

LEAPER-1 HANDY DIGITAL IC TESTER

Features

- Easy-operating Tester, particularly be designed for the Digital IC
- Small, portable, light and power-saving, usable with batteries.
- Average search time: 0.8 second
- Display: 16 characters in 1 line
- Test Pins: 14 to 24 pins
- Equipped with empty-load test, and the function of Auto Power Off

Standard Accessories

- main unit
- printer connect cable
- operation manual

Options

- DC 250-550mA power supply adaptor
- SOP adaptor

Physical & Environmental Specifications

- Dimension:16cmx11cmx4.5cm
- Weight:0.34kgs
- Temperature:+5c to +45c
- Humidity:to 90% noncondensing
- Altitude: to 5000m

EMC standards

(per 89/336/EEC)

EN50081-1	EN55022
EN60555-2	EN60555-3
EN50082-1	IEC801-2
IEC801-3	IEC801-4

Supported Devices

74 Serial

7400 7401 7402 7403 7404 7405 7406
7407 7408 7409 7410 7411 7412 7413
7414 7415 7416 7417 7418 7419 7420
7421 7422 7423 7424 7425 7426 7427
7428 7430 7432 7433 7434 7435 7436
7437 7438 7439 7440 7441 7442 7443
7445 7446 7447 7448 7449 7450 7451
74H52 7453 7454 74H54 7455 7460 74H61
7463 7464 7465 7470 7472 7473 7474
7475 7477 7478 74H78 7480 7481 7482
7483 7484 7485 7486 7487 7489 7490
7491 7492 7493 7494 7495 7496 74105
74107 74109 74110 74111 74112 74113 74114
74116 74125 74126 74128 74132 74133 74134
74135 74136 74137 74138 74139 74140 74141
74142 74143 74144 74145 74147 74148 74150
74151 74152 74153 74154 74155 74156 74157
74158 74159 74160 74161 74162 74163 74164
74165 74166 74168 74169 74170 74173 74174
74175 74176 74177 74178 74179 74180 74181
74182 74183 74184 74185 74189 74190 74191
74192 74193 74194 74195 74196 74197 74198
74199 74230 74231 74240 74241 74242 74243
74244 74245 74246 74247 74248 74249 74251
74253 74257 74258 74259 74260 74265 74266
74273 74274 74276 74279 74280 74283 74289
74290 74293 74295 74298 74299 74322 74323
74347 74348 74350 74351 74352 74353 74363
74364 74365 74366 74367 74368 74373 74374
74375 74377 74378 74379 74382 74386 74390
74393 74395 74399 74412 74425 74426 74445
74447 74465 74466 74467 74468 74490 74518
74519 74520 74521 74522 74533 74534 74539
74540 74541 74563 74564 74573 74574 74576
74580 74597 74620 74621 74622 74623 74638
74639 74640 74641 74642 74643 74644 74645
74646 74647 74652 74654 74668 74669 74670
74682 74683 74684 74685 74688 74689 74795
74796 74797 74798 74804 74805 74808 74810
74811 74821 74827 74832 74841 74874 741000
741002 741003 741004 741005 741008 741010 741011
741020 741034 741035 741036 741244 741245

40 Serial

4000 4001 4002 4006 4007 4008 4009
4010 4011 4012 4013 4014 4015 4016
4017 4018 4019 4020 4021 4022 4023
4024 4025 4026 4027 4028 4029 4030
4031 4032 4033 4035 4038 4040 4041
4042 4043 4044 4048 4049 4050 4051
4052 4053 4054 4055 4056 4060 4063
4066 4067 4068 4069 4070 4071 4072
4073 4075 4076 4077 4078 40H78 4081
4082 4085 4086 4093 4094 4095 4096
4097 4099 40100 40101 40102 40103 40104
40106 40109 40110 40147 40160 40161 40162
40163 40174 40175 40181 40182 40192 40193
40194 40257

45 Serial

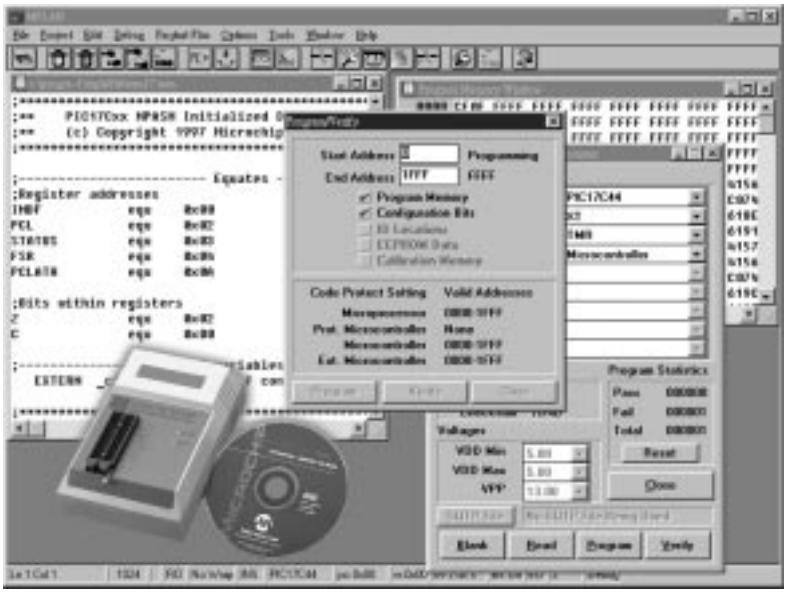
4501 4502 4503 4504 4506 4508 4510
4511 4512 4513 4514 4515 4516 4517
4518 4519 4520 4522 4526 4527 4529
4532 4539 4543 4551 4553 4555 4556
4560 4561 4566 4572 4581 4584 4585

41 Serial

4164 41256 411000 414000 (DRAM 1-bit)

44 Serial

4464 44256 441000 (DRAM 4-bit)



LEAP PSTART makes designing with Microchip MCUs simple and affordable

The LEAP PSTART development system from Microchip technology provides the product development engineer with a highly-flexible low-cost microcontroller design tool set for all PIC14000, PIC16C5X, PIC16CXX and PIC17CXX 8-bit one-time-programmable (OTP), DIP packages up to 40-pin devices.

The LEAP PSTART development system operates on any PC-compatible machine running under the Windows 3.1/95/98 operating system. LEAP PSTART is easy-to-use and features Microchip's highly acclaimed MPLAB integrated Development Environment with its built-in editor, assembler and Windows-based MPLAB-SIM simulator.

Sample software programs are provided to help the developer quickly become familiar with the LEAP PSTART development system and with Microchip's microcontroller families.

Features:

1. Low-cost Development Kit Supports PIC 14000, PIC 16/17 MCUs
2. Operates with PC-compatible host system running Windows under MPLAB environment
3. Able to upgrade software from Leap or Microchip internet server
4. Reads, programs, verifies EPROM and EEPROM program and data memory
5. Reads, programs, verifies all configuration bits
6. Programs and verifies and address range
7. Displays, edits, and transfers device contents to and from programmer unit
8. MPLAB Project support to automatically download object file to PSTART Plus
9. MPASM Assembler translates assembler source code to object code for all PIC16/17 devices
10. MPLAB-SIM Windows-based simulator designed to model operation of all PIC16/17 microcontrollers
11. Complete with RS-232 cable, 9 volt universal IEC power supply and power cable

Standard Accessories

Main unit

RS-232 cable

CD-ROM

DC power supply

Optional Accessories

Full range adaptors

Electrical Requirements

Operation Voltage: 100VAC to 240VAC
Frequency Range: 47 to 63 Hz
Power Consumption: 10W maximum

Physical & Environmental Specifications

Dimension: 16 x 11 x 4.5 cm
Weight:0.5kg
Temperature: +5C to +45C
Humidity: to 90% noncondensing
Altitude: to 5000m

System Description:

The LEAP PSTART Plus development system included the LEAP PSTAR development programmer and the MPLAB Integrated Development Environment.

The LEAP PSTART programmer gives the product developer the ability to program user software into any of the supported microcontrollers. The LEAP PSTART software running under MPLAB provides for full interactive control over the programmer.

The MPASM macro assembler provides programmable memory data files, listing files and special files required for symbolic debug. The MPLAB-SIM software simulator allows the user to isolate code problems and debug firmware designs on PIC16/17 devices. It simulates the core functions as well as most of the peripherals of the PIC16/17 microcontroller families. It is particularly suitable for optimizing algorithms where real-time emulation is not required.

LEAP-U1 UNIVERSAL PROGRAMMER & TESTER

Features:

*Able to execute different functions at the same time with one disk.
*Designed with over current protection to avoid burning device.
*CPU 8751 and 8748 disassembler file.
*Allow selection of Vpp, Vcc, Tpw, Toe...
*Support monochrome, color, EGA and VGA display.
*Support IC pin-out and basic parameter data.

Support Programming Device List:

E/EPROM, MCS-48, MCS-51, PAL, PROM, PEEL, GAL, PLD, PIC

Support testing Device List:

TTL 54/74, CMOS 40/45, DRIVER, PPO, OPTO, SRAM, DRAM

Physical & Environmental Specifications:

*Dimension 24x15.5x4cm
*Weight:1.2kgs
*Temperature: +5c to + 45c
*Humidity: to 90% noncondensing
*Altitude: to 5000m

Standard Accessories:

*main unit x1
*driver software disk x1
*user's manual x1
*printer port cable x1
*RM-3 interface card x1

Optional Accessory:

*full range adaptors

LEAP-SU1 STAND-ALONE UNIVERSAL PROGRAMMER & TESTER

Features:

*Stand-alone mode, able to work alone, no PC needed.
*Internal auto-switch 110V/220V power supply, able to transmit through RS-232.
*Software Map Helps Menu enable to aid learning and give quick reference.
*Compact and elegant design goes from your palm to a briefcase.
*LCD display: 20x4 characters.
*Equipped with auto-switch 110/220V power supply.
*Transmit data through RS-232.

Physical & Environmental Specifications:

*Dimension 24x17.8x6.5cm
*Weight:1.7kgs
*Temperature: +5 C to + 45C
*Humidity: to 90% noncondensing
*Altitude: to 5000m

Standard Accessories:

*main unit x1
*software disk x1
*user's manual x1
*printer port cable x1

Optional Accessory:

*full range adaptors

Features:

*Reliable desktop design.
*User's friendly set up and operates.
*16 X 1 character 9 X 7 dot matrix LCD display.
*Built in 6 functions and 10 numerical keys.
*Identifies over 1800 CMOS/TTL digital ICs (up to 24 pins).
*High test speed at an average 0.8 second for one IC test.
*The following IC series can be tested under 5 volt.
1. Texas Instruments 54/74 TTL series.
2. Motorola 14000 and RCA CD4000 CMOS series.
3. Other compatible ICs with the above mentioned devices.
*Auto identifies the unknown ICs and lists the same function's IC number.
*"LOOP" examines ICs reliability.
*Various "BUZZER" sounds to presents the test results "FAIL", or "PASS".

Specifications:

*Display:16x1 character dot matrix LCD display
*Test Socket:One position for 28-pin IC socket
*Operating Key:
(1) 6 Function keys: TTL/CMOS, BUZZER, LOOP, SEARCH, GO,←
(2) 10 numeric keys: 0-9
*Test Voltage:5.0 VDC
*Alarm:Various tones for the test result
*Power Supply:110/220VAC ,50/60 Hz(Auto Rage)
*Operating Temperature: 10c to 40 c
*Storage Temperature: 0c to 50 c
*Measurement: 33.5 x 30 x 10.5 cm
*Weight:1.5 Kgs

Standard Accessories:

*Main frame x 1
*User's manual x 1
*AC cable

Optional Accessory:

*SOP adaptor

Supported Devices

74 Serial

7400 7401 7402 7403 7404 7405 7406
7407 7408 7409 7410 7411 7412 7413
7414 7415 7416 7417 7418 7419 7420
7421 7422 7423 7424 7425 7426 7427
7428 7430 7432 7433 7434 7435 7436
7437 7438 7439 7440 7441 7442 7443
7445 7446 7447 7448 7449 7450 7451
74H52 7453 7454 74H54 7455 7460 74H61
7463 7464 7465 7470 7472 7473 7474
7475 7477 7478 74H78 7480 7481 7482
7483 7484 7485 7486 7487 7489 7490
7491 7492 7493 7494 7495 7496 74105
74107 74109 74110 74111 74112 74113 74114
74116 74125 74126 74128 74132 74133 74134
74135 74136 74137 74138 74139 74140 74141
74142 74143 74144 74145 74147 74148 74150
74151 74152 74153 74154 74155 74156 74157
74158 74159 74160 74161 74162 74163 74164
74165 74166 74168 74169 74170 74173 74174
74175 74176 74177 74178 74179 74180 74181
74182 74183 74184 74185 74189 74190 74191
74192 74193 74194 74195 74196 74197 74198
74199 74230 74231 74240 74241 74242 74243
74244 74245 74246 74247 74248 74249 74251
74253 74257 74258 74259 74260 74265 74266
74273 74274 74276 74279 74280 74283 74289
74290 74293 74295 74298 74299 74322 74323
74347 74348 74350 74351 74352 74353 74363
74364 74365 74366 74367 74368 74373 74374
74375 74377 74378 74379 74382 74386 74390
74393 74395 74399 74412 74425 74426 74445
74447 74465 74466 74467 74468 74490 74518
74519 74520 74521 74522 74533 74534 74539
74540 74541 74563 74564 74573 74574 74576
74580 74597 74620 74621 74622 74623 74638
74639 74640 74641 74642 74643 74644 74645
74646 74647 74652 74654 74668 74669 74670
74682 74683 74684 74685 74688 74689 74795
74796 74797 74798 74804 74805 74808 74810
74811 74821 74827 74832 74841 74874 741000
741002 741003 741004 741005 741008 741010 741011
741020 741034 741035 741036 741244 741245

40 Serial

4000 4001 4002 4006 4007 4008 4009
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4042 4043 4044 4048 4049 4050 4051
4052 4053 4054 4055 4056 4060 4063
4066 4067 4068 4069 4070 4071 4072
4073 4075 4076 4077 4078 40H78 4081
4082 4085 4086 4093 4094 4095 4096
4097 4099 40100 40101 40102 40103 40104
40106 40109 40110 40147 40160 40161 40162
40163 40174 40175 40181 40182 40192 40193
40194 40257

45 Serial

4501 4502 4503 4504 4506 4508 4510
4511 4512 4513 4514 4515 4516 4517
4518 4519 4520 4522 4526 4527 4529
4532 4539 4543 4551 4553 4555 4556
4560 4561 4566 4572 4581 4584 4585

LP-ICT-7 LINEAR IC TESTER

Feature

*High performance Tester, specially designed for Linear IC

*Automatically search un-known IC number

*Provide Self-Diagnosis func-tion

*Equipped with loop function, able to continuous test cycle for unstable IC

*Programmable test voltage :0.1 to 25 voltage/250mA cur-rent limit

*LCD display: 20 x 2

*LED indicator:
(1)heart(2)warning(3)pass/fail

*Test pins: 8 to 16-pin

*Test Vcc:adjustable from 5V

Standard Accessories

* main unit
* AC cable
* operation manual

Electronical Requirements

* Operation Voltage:
AC110V/220V+/-0%
* Frequency Range:40 to 60 Hz

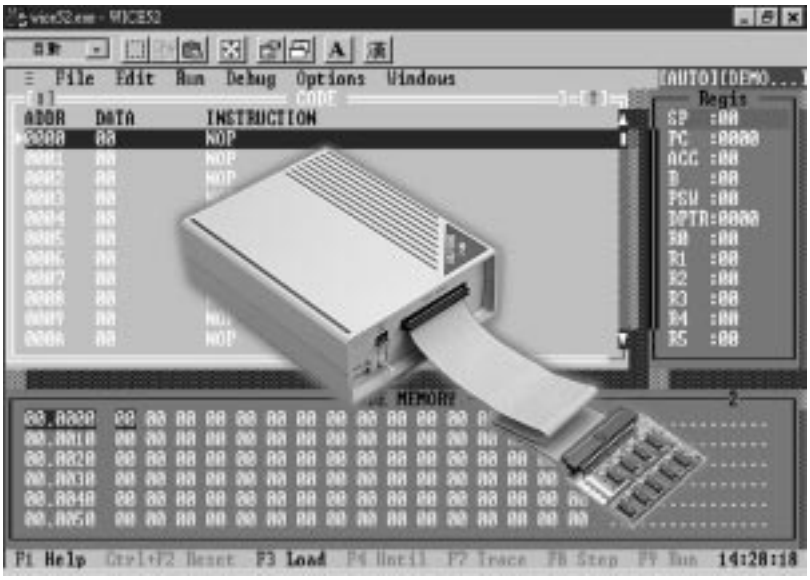
Physical & Environmental Specifications

* Dimension:39cm X34cm X10.5cm
* Weight:3.5kgs
* Temperature:+5C to +45C
* Humidity:to 90% noncondensing
* Altitude:to 5000m

DEVICE SUPPORT

OP AMP
101 201 301 107 207 741 748
1741 777 1741 3105 3152 3193 3420
3493 6741 4558 353 060 061 071
070 080 081 3008 3010 3015 3016
3029 3030 3037 3038 3100 3130 3140
351 3161 022 082 062 072 083
158 258 358 01 148 149 248
348 349 124 224 324 380 319
COMPARATE
139 239 339 111 211 311 3098
3099 3290 709 2901
REGULATED
497 723 1524 2524 3524 3085
TIMER
555 556
PERIPHERAL INTERFACE
2003 2004
ZENER DIODE
.2
78XX
7802 7805 7806 7808 7809 7810
7812 7815 7818 7820 7822 7824 78..
PHOTO
PC817 6N135 6N136 6N137
OP18137 6N138 6N139 CNY74-2 CNY74-4
6 TIL111 TIL112 TIL113 TIL114
TIL115 TIL116 TIL117 TIL119 TIL124
TIL125 TIL126 TIL127 TIL128 TIL153
TIL154 TIL155 TIL156 TIL157
4N25 4N26 4N27 4N28 4N29 4N30 4N31 4N32
4N33 4N34 4N35 4N36 4N37 4N38 4N39 4N28
H11A1 H11A2 H11A3 H11A4 H11A5
H11A520 H11A550 H11B1 H11B2 H11B255
MCT2 MCT26 MCT271 MCT272 MCT273
MCT274 MCT275 PC827 PC837 PC847
COMMUNICATION
1488 1489

WICE-8052 8052 IN-CIRCUIT EMULATOR



The WICE-8052, In-circuit Emulator for microcontroller 8052 series, is a well developed product by LEAP ELECTRONIC. The WICE-8052 is designed specifically for today's engineers who need an extreme good tool for their projects. It combines real-time emulation up to 40 MHz, parallel system interface and efficient 64K hardware breakpoints.

Easy-to-use Interface

The WICE-8052 can be operated both with DOS and Windows 3.1/95/98 interface. With multi-windows, point-and-click, menu-driven function and on-line help, WICE-8052 assits your design into a quick and efficient project.

Real-time Hardware Breakpoints:

Breakpoints are used to stop user's program execution while preserving the current program status. Breakpoints of WICE-8052 can be triggered from address and address ranges. It supports 64K hardware full range execution breakpoints, allows to stop anywhere and avoids unnecessary procedure.

Real-time Trace Buffer

Trace buffer is a high speed RAM which is used to capture in a real time all activity on the microcontroller internal bus and pins.

*Stores up to 32K deep, 16-bit wide
*Be capable of exchange Forward, Backward and About Trace
*Supports trace On/Off function
*Trace buffer is accessible even when the emulation processor is running

Other Functional Specifications:

*Memory display and edit while executing in real-time.
*Special design for detecting wrong insertion and protecting from exceeding 5V input.
*Trace display during execution
*Pass-points to monitor internal RAM, variables and registers while running
*Real time transparent emulation up to 40MHz
*Up to 64K of overlay program memory
*Up to 64K of overlay external data memory
*Parallel/printer port interface to the host
*Supports Windows software simulation to run program and analysis.
*Provides user-defined Macro capability for DOS software.

Maximum Emulation Speed:

Up to 40 MHz

Electrical Requirements :

Operating voltages: AC100 to 240V
Frequency range: 47 to 63 Hz
Power consumption: 8W

Physical & Environmental specifications:

*Dimensions: 14 x 11x 4.6cm
*Weight: 380gs
*Temperature: +5 c to 45 c
*Humidity: to 90%
*Altitude: to 5000m

Standard Accessories:

Mainframe x 1
26-pin cable x 1
40-pin module + flat cable x 1
2-pin signal line hook x 1
40-pin IC socket x 1
DC power supply x 1
EXT CRYSTAL adaptor x1
System software disk
User's manualx1

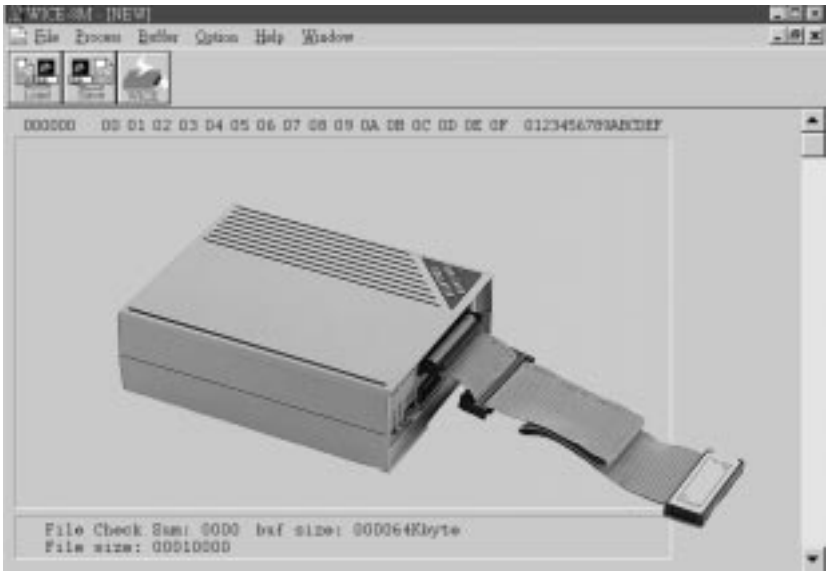
Option Accessory:

PLCC adaptor

DEVICE SUPPORT

INTEL	
8031 8032 80C31 80C32	
8xC51 8xC52 8xC54 8xC58	
8xL52 8xL54	
ATMEL	
89C51 89LV51 89C52 89LV52	
89C55	
PHILIPS	
8031 8051 80C31 80C32	
8xC51 8xC52 8xCL31 8xCL51	
8xC851	
SIEMENS	
8031 8051 8032 8052	
C501 C502	
WINDBOND	
W78C31B W78C32B	

WICE-4/8MA ROM/SRAM EMULATOR



WICE-4/8MA is a high performance in-circuit emulator for developing and debugging ROM/SRAM applications. It offers real-time emulation up to 4M-bit/8M-bit . WICE-4/8MA interface to an IBM PC or clone via the printer port. It is able to be driven under DOS or Windows 3.1/95.(WICE-8MA for 98/ NT as well)

Features

*Special design for detecting wrong insertion and protect from exceed from exceed 5V input.
*Portable, stable, download speedy, and space saving.
*Provides printer port interface which make the most convenient working environment.
*Support low-voltage devices.
*Reset output signal available, unnecessary to use the reset key on the target board. And able to set active High or Low.
*Able to be driven under both windows 3.1/95 and DOS systems.
*Support 26 file translation formats.
*One printer port is able to control two units of WICE-4/8MA.
*Able to support device of 28F002 DIP package by adding module driver.

Speed of Emulation

SRAM access time +10ns </=80ns

Standard Accessories

*mainframe x1
*26-pin cable1 x1
*32-pin single connector flat cable x1
*32-pin double connector flat cable x1
*16-bit 40-pin module + flat cable x1
*4 signal line hook x1
*28-pin IC socket x2
*System software disk x1
*User,s manual x1
*DC power adaptor x1
*3.3V adaptor x2

Option

*PLCC adaptor
*28F002 module driver

Physical & Environmental Specifications

*Dimension:14cm X11cm X4.6cm
*Weight::378 gs
*Temperature:+5C to +45C
*Humidity:to 90% noncondensing
*Altitude:to 5000m

Supported Devices

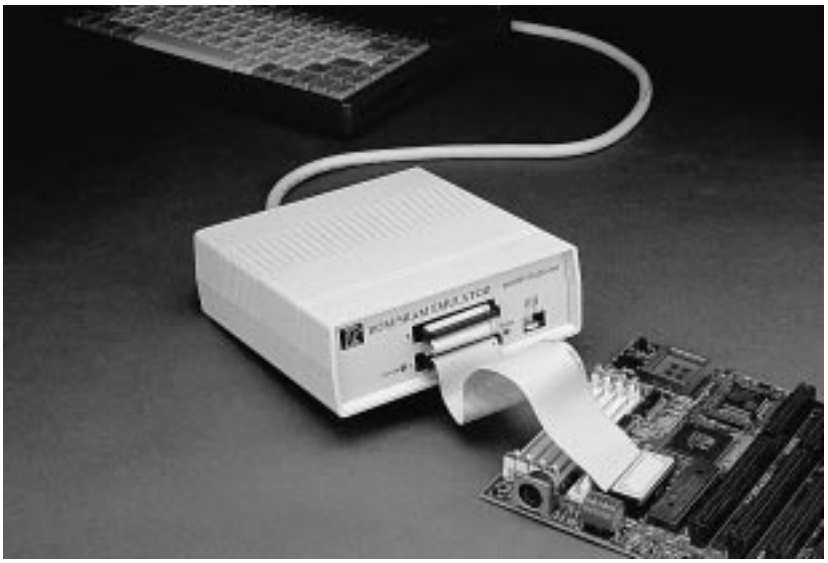
WICE-4MA

Capacity	Quantity	Device	Low voltage Device
2K X 8	2	2716	-
4K X 8	2	2732	-
8K X 8	2	2764	-
16K X 8	2	27128	-
32K X 8	2	27256	-
64K X 8	2	27512	-
128K X 8	2	27010	27LV010
256K X 8	2	27020	27LV020
512K X 8	1	27040	27LV040
64K X16	1	271024	27LV1024
128K X 16	1	272048	27LV2048
256K X16	1	274096	27LV4096
2K X 8	2	6116	-
8K X 8	2	6264	-
32K X 8	2	62256	-
128K X 8	2	628128	-

WICE-8MA

Capacity	Quantity	Device	Low voltage Device
2K X 8	2	2716	-
4K X 8	2	2732	-
8K X 8	2	2764	-
16K X 8	2	27128	-
32K X 8	2	27256	-
64K X 8	2	27512	-
128K X 8	2	27010	27LV010
256K X 8	2	27020	27LV020
512K X 8	2	27040	27LV040
1024K X8	1	27080	27LV080
64K X16	1	271024	27LV1024
128K X16	1	272048	27LV2048
256K X 16	1	274096	27LV4096
2K X 8	2	6116	-
8K X 8	2	6264	-
32K X 8	2	62256	-
128K X 8	2	628128	-
512K X 8	2	628512	-

WICE-4/8M ROM/SRAM EMULATOR



LEAP provides you a high quality and unbeatable performance emulation tools for ROM/SRAM. At affordable price, WICE-4/8M is ideal for developing and debugging applications up to 4M-bit/8M-bit.

Incredible 50ns accessed time which saves your time while developing. Easy-to-use window operating makes WICE-4/8M guide you through a quickly and promptly emulation. Printer Port gives you the best operating environment.

Features

* Adopt Printer port interface to connect PC (Adaptable for Notebook PC)
* Use independent power supply, steady and convenient
* Able to execute under DOS prompt or batch file
* Two sets of sockets to simulate two devices simultaneously
* Support IC pin-out for reference, display used map function
* "RESET" "HOLD" "USER" signal output
* Use window operation program, full screen edit

Speed of Emulation

Access time 50ns
(SRAM Access Time + 10ns)

Standard Accessories

* Mainframe X1
* 25-pin cable X1
* 32-pin single connector flat cable X1
* 32-pin double connector flat cable X1
* 28-pin IC socket X2
* DC adaptor
* 16-bit 40-pin module + flat cable X1
* 4 signal line hook X1
* System software disk X1
* User's manual X1

Option

* PLCC adaptor

Physical & Environmental Specifications

* Dimension : 17 X15.5 X5.4cm
* Weight : 0.8 kg
* Input voltage : 9V, 500mA
* Operating Temperature : +5C to +45C
* Humidity : to 90% noncondensing
* Altitude : to 5000m

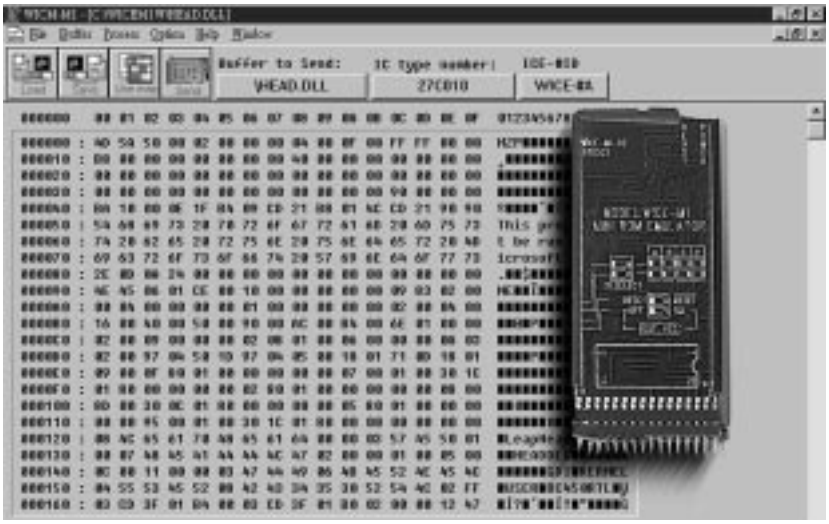
Supported Devices

WICE-4M

Capacity	Quantity	Device
2K x 8	2	2716
4K x 8	2	2732
8K x 8	2	2764
16K x 8	2	27128
32K x 8	2	27256
64K x 8	2	27512
128K x 8	2	27010
256K x 8	2	27020
512K x 8	1	27040
64K x16	1	271024
128K x16	1	272048
256K x16	1	274096
2K x 8	2	6116
8K x 8	2	6264
32K x 8	2	62256
128K x 8	2	628128

WICE-8M

Capacity	Quantity	Device
2K x 8	2	2716
4K x 8	2	2732
8K x 8	2	2764
16K x 8	2	27128
32K x 8	2	27256
64K x 8	2	27512
128K x 8	2	27010
256K x 8	2	27020
512K x 8	2	27040
1024K x 8	1	27080
64K x16	1	271024
128K x16	1	272048
256K x16	1	274096
2K x8	2	6116
8K x8	2	6264
32K x8	2	62256
128K x8	2	628128
512K x8	2	628512



Features

*Portable, stable, download speedy, and space saving.

*Provides printer port interface which make the most convenient working environment.

*Able to plug directly in the IC socket, eliminating noise, fan out, and time delay caused from cable.

* Special design for detecting wrong insertion and protecting from exceeding 5V input.

* Reset output signal available, unnecessary to use the reset key on the target board. And able to set active High or Low.

*Able to set the power resource from the adapter or target board.

*One printer port is able to control four units of the *WICE-M1*.

*Supports 26 file translation formats.

Speed of Emulation

SRAM access time + 0ns </=15ns

Standard Accessories

*mainframe X 1
*25-pin to 8-pin D type adaptor X 1
*Disk X 1
*8-pin cable X 1
*User's manual X 1
*Reset signal line X 1
*DC 6V/250mA adaptor X 1

Option

*PLCC adaptor

Physical & Environmental Specifications

*Dimension:9cm X4cm X1.5cm
*Weight:47gs
*Temperature:+5C to +45C
*Humidity:to 90% noncondensing
*Altitude: to 5000m

Supported Devices

CAPACITY	Q'TY	TYPE	VOLTAGE
2 K x 8	1	2716	5V
4 K x 8	1	2732	5V
8 K x 8	1	2764	5V
16 K x 8	1	27128	5V
32 K x 8	1	27256	5V
64 K x 8	1	27512	5V
128 K x 8	1	27010	5V

PC EXTENSION INTERFACE PROTECTOR

APPLICATIONS IN EDUCATION FIELD

PC is playing an important role in industrial field because of high-speed development, reliable, low-price, various functions. Hardware interface circuit and controlled software complement each other in Microcontrolled system. Engineers in this field must deeply understanding the skills of hardware interface and software designed that can function efficiently in microcontrolled system.

In general laboratory, either in education or academic field, tutors are not willing to teach this section for the following reasons

1. It will damage the PC for wrong soldering in experiment circuit board.
2. Losing component parts or cause damages by dismantling PC case.
3. It is time wasting to turn on/off if there are mistakes in experiment, because of the necessary load and save operation.
4. Bread board experiment are not accepted.

For solving above problems, simply plug in PC EXTENSION INTERFACE PROTECTOR PCFACE-III which can provide you functions as following

1. The cable line is long enough up to 75 cm between PC and PCFACE-III.
2. Conveniently four slot designed to plug in/out the unit under test on PCFACE-III.
3. No need to dismantle the case of PC.
4. Easy to test and measure messages from PC according to pin indication on slot.
5. Easy to detect shorted circuit according to power indication. It can prevent the malfunction of power.
6. PCFACE-III which is a Protector of Mother Board type. Users can turn on/off PCFACE-III instead of turning on/ff the whole PC system. It is convenience and time saving, especially in testing. You will find work efficiency that can be enhanced.
7. Able to perform bread board experiment by using the PCFACE-III slot pin diagram.
8. No hard state limited for interface experiment.

PCFACE-III SPOTLIGHTS

*Plug in/out Interface Card by not turning off main unit
*All message cable and power have blocked function
*Real signals extension system, ALL messages can be testing on extension slot.
*Four layer designed, no disorder message and HIGH stability.
*Over current protecting indiction in four LED.

Education authority can introduce public printed textbook to perform I/O interface experiment which listed as following. LEAP ELECTRONIC also provides I/O experiment card for the experiment.

1. Assembly language programming
2. Implementing standard program structures in 825x assembly language
3. Strings, procedures and macros
4. System connections, timing and troubleshooting
5. Interrupts and interrupt applications
6. Digital interfacing
7. Analog interfacing and industrial control
8. DMA, DRAMs, cache memories, coprocessors and EDA tools
9. C, a high-level language for system programming
10. Microcomputer system peripherals
11. Data communications and networks
12. The experiment of 8253/8254/8255

APPLICATIONS IN INDUSTRIAL FIELD

PC EXTENSION INTERFACE PROTECTOR are widely applicated in industrial field. Usually, it can be used in three occasions as following.

1. R&D dept: for I/O designing or experiment.
2. Maintenance: To maintain all kinds of Interface Card.
3. Interface Card manufacturer: To do QC for Interface Card by using interface slot.

There are a few problems which can disturb your work or damage your PC by using interface slot on PC.

1. Shorted circuit caused by soldering in design or experiment interface.
2. For not knowing reasons, damage main unit by using the ruined Interface Card.
3. In Interface Card manufacturing, harmful Interface cards causes losses by doing QC for their products.

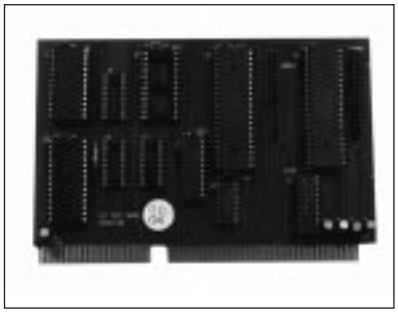
LEAP ELECTRONIC presents PCFACE-III which can prevent those problems for you.

PCFACE-III FEATURES.

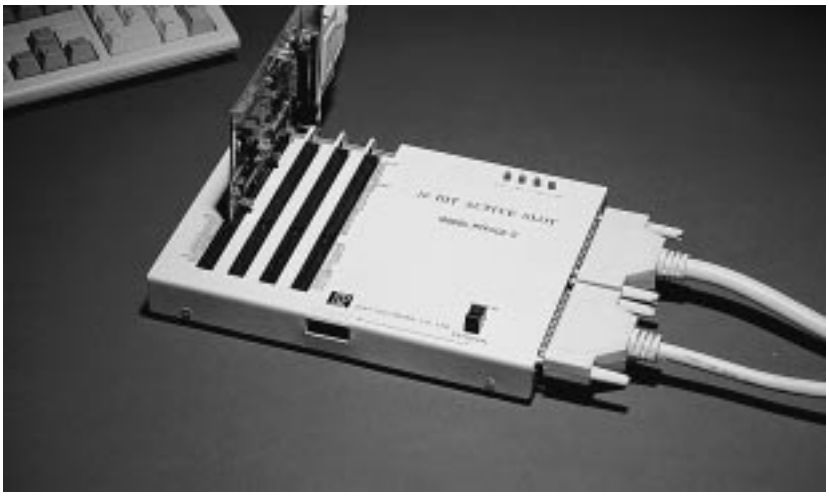
1. Prevent damages for PC during experiment.
2. Prevent damages during Interface Card mending.
3. Test on PCFACE-III EXTENSION INTERFACE slots, you can promptly choose the harmful one to prevent the damages on the PC.
4. PCFACE-III which is a Protector of Mother Board type. User can turn on/off PCFACE-III instead of turning on/ff the whole PC system. It is convenience and time saving, especially in testing. You will find work efficiency that can be enhanced.
5. Prevent malfunction from short circuit on the slot by power protection in PCFACE-III.
6. Prevent damages on mother board or Interface Card by message protection sending to the extension slot.

PCFACE-III SPOTLIGHTS

*Plug in/out Interface Card by not turning off PC
*All message cable and power have block function
*Real signal extension system, ALL messages can be testing on extension slot.
*Four layer designed, no disorderly message and with HIGH stability.
*Over current protecting indiction in four LED.



PCFACE-III (ISA & EISA BUS) PC EXTENSION INTERFACE PROTECTOR



Features:

*Suitable for Manufacturer, design house, academy & office laboratory as an equipment for PC protected and experiment of I/O. Unnecessary to open computer case to remove or insert the interface card.

*Protect against short-circuit of power lines with current limit fuse.

*All bus signal and power is isolated by D-type cable.

*All signal lines of expansion slot can used to measure

*Remove or inset the interface cards without switching off PC power

*8/16 interface cards can be extended to outside

*Applicable circumstances

(1) PC XT/AT/386/486/Pentium

(2) Standard AT Bus (62-pin + 36-pin)

Applicable Interface Cards:

*MONO/EGA/VGA card

*FDC/HDC cards

*Game cards

*I/O cards

*Sound cards

*MPEG cards

Physical & Environmental Specifications:

*Dimension 22x10x2cm

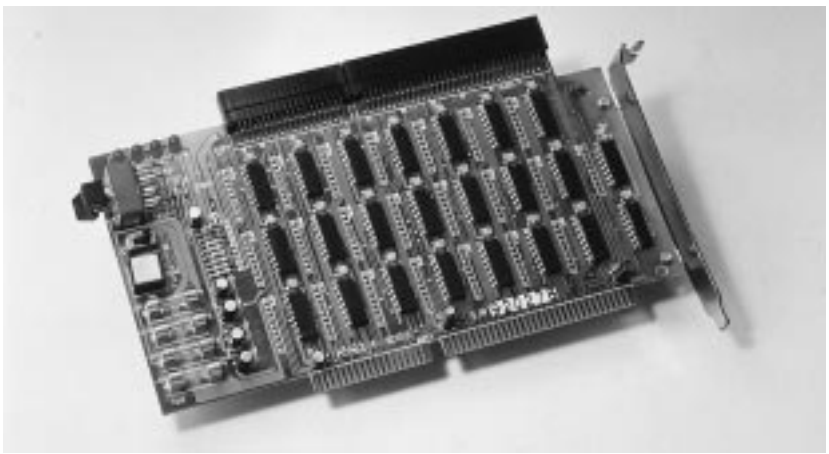
*Weight:0.58kgs

*Temperature: +5 C to + 45C

*Humidity: to 90% noncondensing

*Altitude: to 5000m

PCFACE-II (ISA & EISA BUS) PC EXTENSION INTERFACE PROTECTOR



Features:

*Suitable for manufacturer, design house, academy & official laboratory as an equipment for PC protected and experiment of I/O.

*Protect motherboard from the damage of fault interface cards.

*Protect against short-circuit of power lines with current limit fuse.

*Applicable circumstances:

(1) PC XT/AT/386/486/Pentium

(2) Standard AT Bus (62-pin+36-pin)

Applicable Interface Cards:

*MONO/EGA/VGA cards

*FDC/HDC cards

*Game card

*I/O cards

*Sound cards

*MPEG cards

Physical & Environmental Specifications:

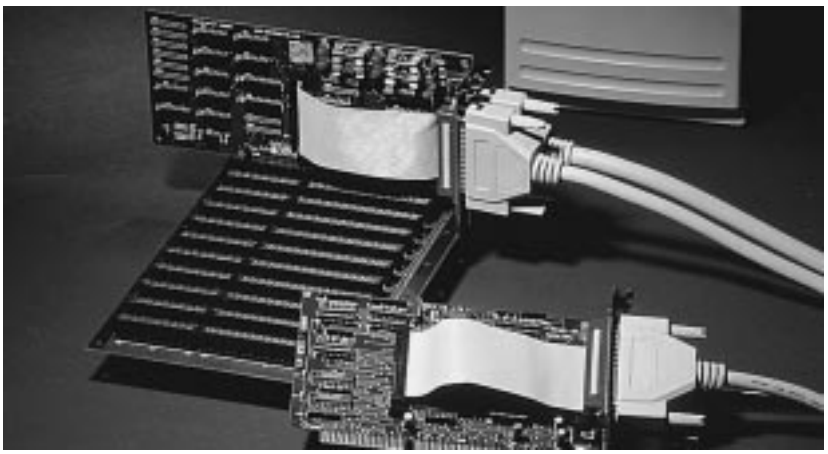
*Dimension 22x13x2cm

*Weight:0.19kgs

*Temperature: +5 Cto + 45C

*Humidity: to 90% noncondensing

*Altitude: to 5000m



Introduction

The PCFACE-IIIC is especially useful for applications such as PC-based data-acquisition and control, where a large number of I/O points must be measured and an unusually large number of add-on cards are required.

The PCFACE-IIIC consists of a master interface card that plugs into a slot on your existing PC, a slave interface card that plugs into a slot on your passive-backplane-based expansion chassis and a cable or adaptor set.

Build-in buffering circuits enable the PCFACE-IIIC to reliably drive and receive all bus signals within 45cm extension cables. The slots on the expanded side are fully transparent to the most plug-in cards and software. In addition, you can plug and unplug cards installed on the expanded side simply by turning off the power supply, the host PC is not disturbed.

Features

*Buffered driver/receiver for PC/XT/AT expansion
*Protect motherboard from the damage of fault interface cards. The slot can be expanded
*Protect against short-circuit of power lines with current limit fuse
*Without any wait-status, I/O decoder and DMA jumpers
*Auto overload protect on 5V(3A), 12V(2A), -5V(1A), -12V(1A)

Applications

*PC bus slot expansion with external power supply
*Industrial applications requiring large number of slots
*Add-on card testing and trouble-shooting where buffered and isolated slots are needed
*Transportable expansion unit for PCs

Applicable Circumstances:

*PC XT/AT386/486/PENTIUM
*Standard AT Bus (62-pin + 36-pin)

Applicable Interface Cards

*PC base instrument interface cards
*Multimedia interface expanders
*Television-well expanders
*Industrial PC expanders
*CD ROM extensive cards

Specifications

*45cm extension between host PC and expansion box
*Double-shielded extension cables with DB-62/37 connectors

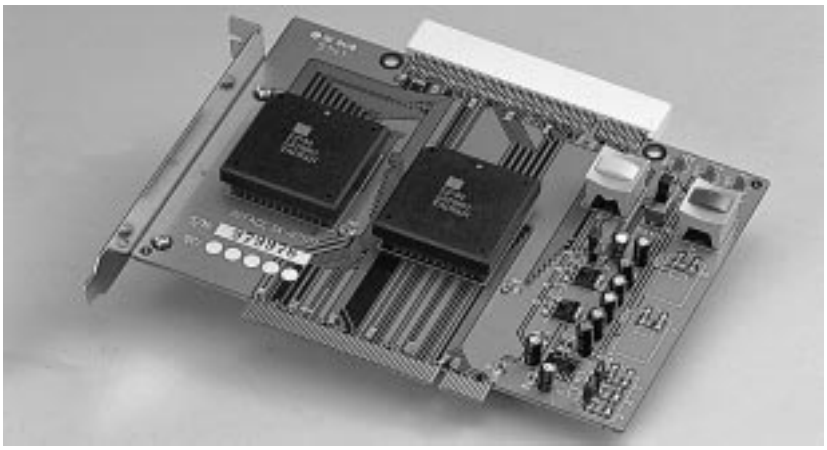
Master Interface

*Bus speed: 8MHz maxmum
*Power consumption: +5V/1A
*Board size: 22 x 10 cm
*Board weight: 0.25 kg

Slave Interface

*Power consumption: +5V/1A
*Board size: 17 x 11 cm
*Board weight: 0.2 kg

PCFACE-IIA (PCI BUS) PC EXTENSION INTERFACE PROTECTOR



Introduction

The PCFACE-IIA is a high-speed 32-bit PCI bus extension interface protector with switchable bus isolation switches supporting 32-bit PCI card. High PCI signal integrity requirements are met with both high speed trace layout parameters, controlled high impedance and minimal ground inductance, and active bus isolation with low capacitance, resistance and delay to insure minimal effect on board under test. Special power monitoring and current limiting features insure a robust debug and test environment.

Features

*3 indicator of 5V, 12V, -12V
* Switches of POWER, CONNECT/ ISOLATE and RESET.
* 32-bit PCI slot capcity
* Auto overload protect on 5V(3.3A),12V(500mA), -12V(200mA):Board has selectable 5V power limit jumper with 1.1A/2.2A/3.3A.Over current can be supervised by through the indicator.
*Auto reset control:
The unit under test board is held in power-on-reset until power reaches proper level.
*Bus isolate:
1. All bus signal and power will be isolated when power switch is off.
2. Only signal bus will be isolated when bus isolate switch is off.
*Hot Insertion Capable:
The slot power switch will isolate every PCI signal including power from the board under test.

Spotlights

* Using polyswitch of resettable fuses to protect the power which able escape and reset the power automatically, no need to exchange the fuses frequently.
* ASIC designed with excellent stability and easy maintenance.
*Easy to detect shorted circuit according to power indication. It can prevent the malfunction power.
*Real signal extension system, all message can be test on the extension slot.
* Four layer designed, no disorderly message and with high stability.

Standard Accessories

* main unit
* operation manual

Physical & Environmental Specifications

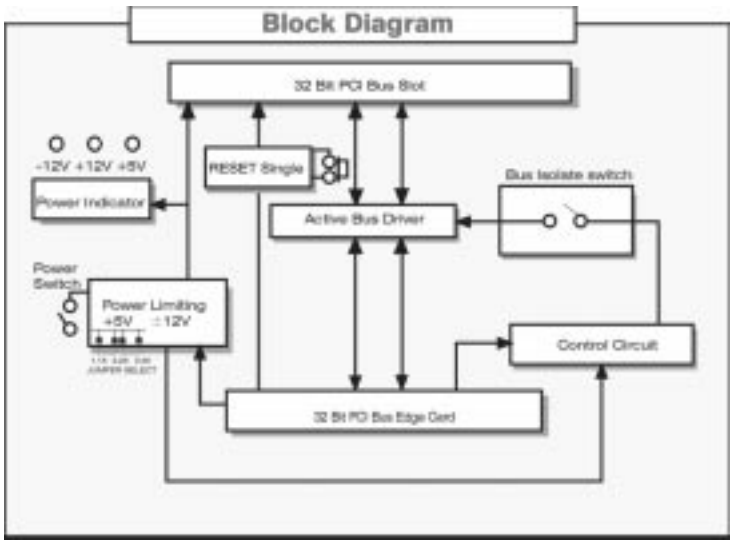
Dimension:16.2 x 13.5 x 2 cm
Weight:180gs
Temperature: +5C to +45 C
Humidity: to 90% noncondensing
Altitude: to 5000m

Advantages for using PCFACE-IIA

ECONOMY
1.Prevent PC from damage during experiments.
2.Prevent PC from damages during interface card mending.
CONVENIENCE
1.Uncessary to open computer case to remove or insert the interface card.
2.To turning on/off PCFACE-IIA instead of turning the whole PC system.
3.No need to preset any decode, provide a easy and prompt operation.

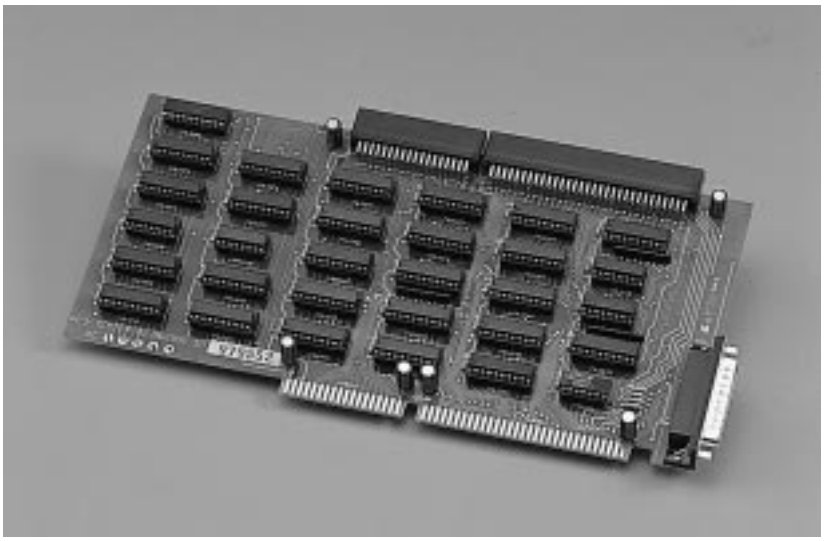
Applications

* Able to be applicated in both industrial and academic field.
* R&D Dept and educational institute: for I/O designing or experiments.
* Maintenance Dept: to maintain all kinds of interface card.
*Interface card manufacturer: to do QC for their products.



PCFACE-III TESTER

PC EXTENSION INTERFACE PROTECTOR TESTER



Overview

PCFACE-III Tester is one of various testers manufactured by Leap Electronic Co., Ltd. It is user friendly designed that non-technical background users can manage PCFACE-III Tester very easily.

For easy maintenance, PCFACE-III Tester can show you the error signal pin-out by running PC3C.EXE,PC3M.EXE which are debug programs. PCFACE-III uses external power and transmits by Parallel Port (printer port), you can have a whole range of QC equipment by connecting your PC with PCFACE-III Tester. With easy managing and quick error finding, PCFACE-III is truly saving your time and money.

Note:

(1) PC3C.EXE for testing interface card, PC3M.EXE for testing PCFACE-III main unit.

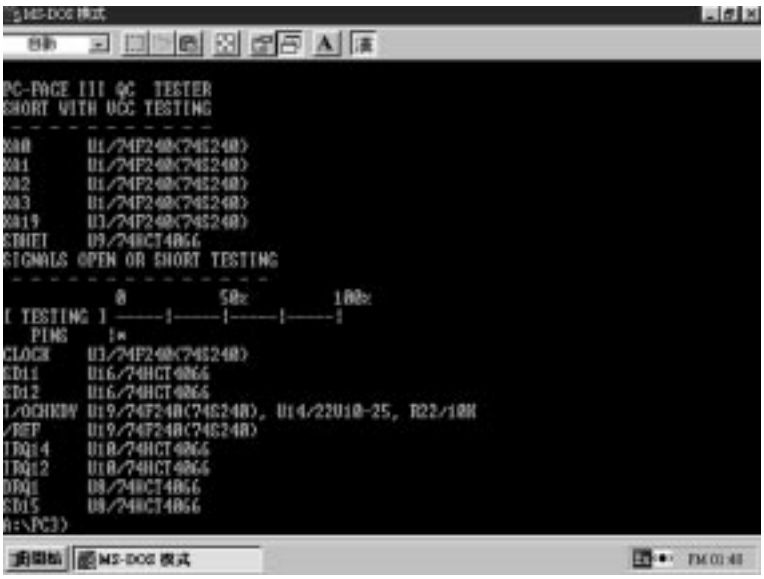
(2) PC3T.EXE is the test/maintenance program: For the convenience of maintenance it will send out wave curve on signal pin-out of ISA/EISA BUS after execute.

Standard Accessories

* main unit x1
* software x1
* operation manual x1
* DC power adaptor x1
* cable x1

Physical & Environmental Specifications

* Dimension:25.3 x 12.8 x 1.5cm
* Weight:224gs
* Operating Temperature:+5C to +45C
* Humidity: to 90% noncondensing
* Altitude: to 5000m



LER-121A / 123A EPROM ERASER

Introduction

Combine well performance and low cost, LEAP provides EPROM ERASER. LER-121A accommodates 12 devices (24-pin x 0.6"), and suits for small developing environment. Another modle LER-123A, of similar styling and
bigger size to the LER-121A, more extensive U-V tube and FIVE times the erasing area.That means the LER-123A can handle 64pcs of 24-pin x 0.6", suits for production line.

Feature

*Equipped with electronic starter, extend the life of U-V tube
*The timer can be set from 0 to 60 minutes
*Powerful U-V tube, all ICs are ensure for maximum U-V exposure.
*Protect users form U-V exposure by equipped with automatic U-V shut off switches when opening the device drawer
*Have LED on the top panel to indicate U-V tube status
*Provides almost completely erase area
*Rugged metal construction but light as you can easy carry.

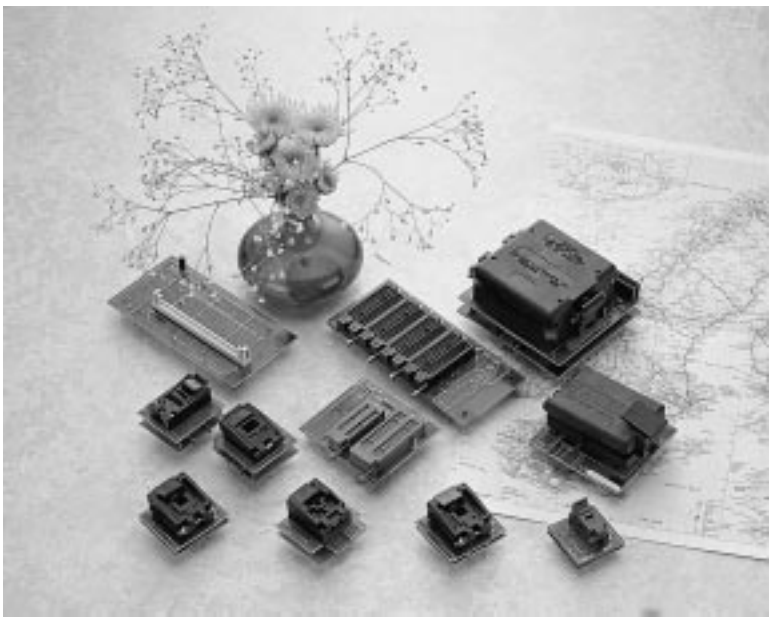
Standard Accessories

*main unit x1
*operation manual x1
*DC power adaptor x1(121A) or power line (123A)

Specification

Item / Model	LER-121A	LER-123A
Capapcity	12pcs 24-pin x 0.6"	64pcs 24-pin x 0.6"
U-v tube	GL-4, 1pc	GL-10, 1pc
Wavelength	2537Å	2537Å
U-V Intensity	5000μW/cm²	5000μW/cm²
Tube Life	3000 hours (recommended)	4000 hours (recommended)
Boards Size	55mm x 135mm	145mm x 265mm
Erasure Timer	pre-settable up to 60 minutes	pre-settable up to 60 minutes
Dimensions	240mm x 85mm x 95mm	370mm x 180mm x 100mm
Weight	1.2kg	3.1kg
Input Power	DC 9V/500mA	AC 115V/60HZ AC 220V/50HZ AC240V/50HZ

ADAPTORS & CONVERTERS



- PLCC package
- SOP package
- SSOP package
- SOJ package
- TSOP package
- PQFP package
- PSOP package
- QFP package
- TQFP package
- SDIP package
- DIP package
- TSSOP package
- FPGA package

Please refer "GUIDE FOR LEAP ADAPTORS & CONVERTERS"for details.

CONTENTS

ITEM	MODEL NO.	DESCRIPTION	ADAPTABLE
PLCC PACKAGE			
AA001	LP-PLCC-PAL-20	1.20-pin PLCC socket 2.supports all 20-pin PLCC, PAL, PLD 3.pin to pin for DIP socket	all programmers
AA002	LP-PLCC-EPC1064	1.20-pin PLCC socket 2.supports ALTERA EPC1064LC20, EPC1LC20,EPC1064VLC20, EPC1213LC20	LEAPER-10 LP-U4
AA003	LP-PLCC-PAL28A	1.28-pin PLCC socket 2.supports all 28-pin PLCC, PAL, PLD 3.NC pin: 1, 8, 15, 22 4.convert 24-pin DIP to 28-pin PLCC socket	all programmers
AA004	LP-PLCC-EP512	1.32-pin PLCC socket 2.supports all 32-pin PLCC E/EPROM from 2764 to 27512 3.NC pin: 1, 12, 17, 26 4.convert 28-pin DIP to 32-pin PLCC socket	all programmers
AA005	LP-PLCC-EP512S (SPRING TYPE)	1.32-pin PLCC socket 2.supports all 32-pin PLCC E/EPROM from 2764 to 27512 3.NC pin: 1, 12, 17, 26 4.convert 28-pin DIP to 32-pin PLCC socket	all programmers

ITEM	MODEL NO.	DESCRIPTION	ADAPTABLE
AA006	LP-PLCC-1M32	1.32-pin PLCC socket 2.supports all 32-pin PLCC EPROM/FLASH EPROM from 1MB up 3.pin to pin for 32-pin DIP socket	all programmers
AA007	LP-PLCC-1M32S (SPRING TYPE)	1.32-pin PLCC socket 2.supports all 32-pin PLCC EPROM/FLASH EPROM from 1MB up 3.pin to pin for 32-pin DIP socket	all programmers
AA008	LP-PLCC-28C16	1.32-pin PLCC socket 2.supports all EEPROM 28C16	all programmers
AA009	LP-PLCC-16C64	1.44-pin PLCC socket 2.supports MICROCHIP PIC16C64/64A, PIC16C65/65A, PIC16C74/74A	all programmers
AA010	LP-PLCC-MPU51	1.44-pin PLCC socket 2.supports 8741A, 8742, 8744, 8748/49H, 8751, 8752, 16 bit EPROM, 27C1024/2048/4096 3.NC pin: 1 ,23 ,short pin:12&13,33&34 4.convert 40-pin DIP to 44-pin PLCC socket	all programmers
AA011	LP-PLCC-MPU51S (SPRING TYPE)	1.44-pin PLCC socket 2.supports 8741A, 8742, 8744, 8748/49H, 8751, 8752, 16 bit EPROM, 27C1024/2048/4096 3.NC pin: 1 ,23 ,short pin: 12&13,33&34 4.convert 40-pin DIP to 44-pin PLCC socket	all programmers
AA012	LP-PLCC-87C251 (SPRING TYPE)	1.44-pin PLCC socket 2.support INTEL 87C251SB,87C251SA,87C251SP,87C251SQ	LEAPER-10 LP-U4
AA013	LP-PLCC-87C451	1.68-pin PLCC socket 2.supports PHILIPS 87C451	LEAP-U1 LEAPER-10 LP-U4
AA014	LP-PLCC-P51XAG37	1.44-pin PLCC socket 2.support PHILIPS P51XAG37	LEAPER-10 LP-U4
AA015	LP-PLCC-87C751	1.28-pin PLCC socket 2.support PHILIPS 87C751	LEAP-U1 LEAPER-10 LP-U4
AA018	LP-PLCC-7C371 (SPRING TYPE)	1.44-pin PLCC socket 2.supports CYPRESS CY7C371	LEAPER-10 LP-U4
AA019	LP-PLCC-XC7236LC44	1.44-pin PLCC socket 2.supports XILINX XC7236LC44	LEAPER-10 LP-U4
AA020	LP-PLCC-XC7354LC44	1.44-pin PLCC socket 2.supports XILINX XC7354LC44, XC7318LC44, XC7336LC44	LEAPER-10 LP-U4
AA021	LP-PLCC-ispLSI1016	1.44-pin PLCC socket 2.supports LATTICE ispLSI 1016/2032	LEAPER-10 LP-U4
AA022	LP-PLCC-68HC705CX	1.44-pin PLCC socket 2.supports MOTOROLA MC68HC705C8/A, MC68HC705C4/A,MC68CH705C9/A	LEAPER-10 LP-U4 LEAP-U1
AA023	LP-PLCC-TMS320	1.44-pin PLCC socket 2.supports TI TMS320E15/E17	LEAPER-10 LP-U4 LEAP-U1
AA024	LP-PLCC-Z86E40	1.44-pin PLCC socket 2.supports ZILOG Z86E40	LEAPER-10 LP-U4
AA025	LP-PLCC-7064LC68	1.68-pin PLCC socket 2.supports ALTERA EPM7064LC68	LEAPER-10 LP-U4

ITEM	MODEL NO.	DESCRIPTION	ADAPTABLE
AA026	LP-PLCC-7096LC68	1.68-pin PLCC socket 2.supports ALTERA EPM7096LC68	LEAPER-10 LP-U4
AA027	LP-PLCC-87C51GB	1.68-pin PLCC socket 2.supports INTEL 87C51GB	LEAP-U1 LEAPER-10 LP-U4
AA028	LP-PLCC-XC7372LC68	1.68-pin PLCC socket 2.supports XILINX XC7372LC68	LEAPER-10 LP-U4
AA029	LP-PLCC-ispLSI1024	1.68-pin PLCC socket 2.supports LATTICE ispLSI 1024	LEAPER-10 LP-U4
AA030	LP-PLCC-XC7354LC68	1.68-pin PLCC socket 2.supports XILINX XC7354LC68	LEAPER-10 LP-U4
AA031	LP-PLCC-68HC711E9	1.52-pin PLCC socket 2.supports MOTOROLA MC68HC711E9	LEAP-U1 LEAPER-10 LP-U4
AA032	LP-PLCC-87C552	1.68-pin PLCC socket 2.supports PHILIPS 87C552	LEAP-U1 LEAPER-10 LP-U4
AA033	LP-PLCC-87C196	1.68-pin PLCC socket 2.supports INTEL MCS-96 87C196KB,87C196KC,87C196KD	LEAPER-10 LP-U4
AA034	LP-PLCC-W78E354LC68	1.68-pin PLCC socket 2.supports WINBOND W78E354LC68	LEAPER-10 LP-U4
AA035	LP-PLCC-7064LC84	1.84-pin PLCC socket 2.supports ALTERA EPM7064LC84	LEAPER-10 LP-U4
AA036	LP-PLCC-7096LC84	1.84-pin PLCC socket 2.support ALTERA EPM7096LC84	LEAPER-10 LP-U4
AA037	LP-PLCC-87C196MC	1.84-pin PLCC socket 2.supports INTEL 87C196MC, 87C196MD, 87C196MH	LEAPER-10 LP-U4
AA038	LP-PLCC-HD647180	1.84-pin PLCC socket 2.support HITACHI HD647180	LEAPER-10 LP-U4
AA039	LP-PLCC-MACH130	1.84-pin PLCC socket 2.supports AMD MACH 130	LEAPER-10 LP-U4
AA040	LP-PLCC-XC73108LC84	1.84-pin PLCC socket 2.supports XILINX XC73108LC84	LEAPER-10 LP-U4
AA041	LP-PLCC-ispLSI1032	1.84-pin PLCC socket 2.supports LATTICE ispLSI 1032, ispLSI2064	LEAPER-10 LP-U4
AA042	LP-PLCC-7128ELC84	1.84-pin PLCC socket 2.supports ALTERA EPM7128ELC84	LEAPER-10 LP-U4
AA043	LP-PLCC-7160ELC84	1.84-pin PLCC socket 2.supports ALTERA EPM7160ELC84	LEAPER-10 LP-U4
AA044	LP-PLCC-UNIVERSAL-PLCC	1.universal 84-pin PLCC socket 2.for 40/42 pin DIP socket	all programmers
AA045	LP-PLCC-MACH110	1.44-pin PLCC socket 2.supports AMD MACH110/210/211/215/111	LEAP-U1 LEAPER-10 LP-U4
AA046	LP-PLCC-PSD3XX	1.44-pin PLCC socket 2.supports WSI PSD301,PSD302, PSD303,PSD311,PSD312,PSD313	LEAP-U1 LEAPER-10 LP-U4
AA047	LP-PLCC-PAL28AS (SPRING TYPE) LIVE	1.28-pin PLCC socket 2.supports all 28-pin PLCC PAL, PLD,EPLD 3.NC pin:1,8,15,22 4.convert 24-pin DIP to 28-pin PLCC socket	all programmers
AA048	LP-PLCC-7032/64LC44	1.44-pin PLCC socket 2.supports ALTERA EPM7032/64LC44	LEAPER-10 LP-U4

ITEM	MODEL NO.	DESCRIPTION	ADAPTABLE
AA049	LP-PLCC-PIC16C923/924	1.68-pin PLCC socket 2.supports MICROCHIP PIC16C923,PIC16C924	LEAPER-10 LP-U4
AA050	LP-PLCC-32-EP512B (SPRING TYPE) DEAD	1.32-pin PLCC socket 2.supports all 32-pin PLCC E/EPROM from 2764 to 27512 3.NC pin: 1, 12, 17, 26 4.convert 28-pin DIP to 32-pin PLCC socket	all programmers
AA051	LP-PLCC-32-1M32B (SPRING TYPE) DEAD	1.32-pin PLCC socket 2.supports all 32-pin PLCC EPROM/FLASH EPROM from 1MB up 3.pin to pin for 32-pin DIP socket	all programmers
AA052	LP-PLCC-28-PAL28AB (SPRING TYPE) DEAD	1.28-pin PLCC socket 2.supports all 28-pin PLCC, PAL, PLD,EPLD 3.NC pin: 1, 8, 15, 22 4.convert 24-pin DIP to 28-pin PLCC socket	all programmers
AA053	LP-PLCC-7032LC44	1.44-pin PLCC socket 2.supports ALTERA EPM7032LC44	LEAPER-10 LP-U4
AA054	LP-PLCC-7064LC44	1.44-pin PLCC socket 2.supports ALTERA EPM7064LC44	LEAPER-10 LP-U4
AA055	LP-PLCC-PAL20S	1.20-pin PLCC socket 2.supports all 20-pin PLCC, PAL, PLD,EPLD 3.pin to pin for DIP socket	all programmers
AA056	LP-PLCC-PAL20B	1.20-pin PLCC socket 2.supports all 20-pin PLCC, PAL, PLD,EPLD 3.pin to pin for DIP socket	all programmers
SOP PACKAGE			
AB002	LP-SOP-8PIN-B	1.8-pin SOP socket 2.207 mil 3.pin to pin for 8-pin DIP socket	all programmers
AB004	LP-SOP-16PIN	1.16-pin SOP socket 2.150 mil 3.pin to pin for 8-pin ~16-pin DIP socket	all programmers
AB005	LP-SOP-20PIN	1.20-pin SOP socket 2.for PAL, GAL, PEEL, or 20-pin IC,16C54(16C56) 3.pin to pin for 20-pin DIP socket	all programmers
AB007	LP-SOP-28A	1.28-pin SOP 330mil socket 2.supports all 28-pin SOP SRAM/EPROM 3.pin to pin for 20-pin ~ 28-pin DIP socket	all programmers
AB008	LP-SOP-28B	1.28-pin SOP 300mil socket 2.supports all 28-pin SOP EPROM from 2764 to 27512 EPROM,AND PIC16C63,16C57(55) 3.pin to pin for 20-pin ~ 28-pin DIP socket	all programmers
AB009	LP-SOP-32PIN	1.32-pin SOP 460mil socket 2.supports all 32-pin SOP SRAM/EPROM 3.pin to pin for 32-pin DIP socket	all programmers
AB010	LP-SOP-40PIN	1.40-pin SOP socket 2.pin to pin for 40-pin DIP socket	all programmers
AB011	LP-SOP-44PIN	1.44-pin SOP socket 2. pin to pin for 44-pin DIP socket	all programmers
AB012	LP-SOP-MC68HC705J2	1.20-pin SOP socket 2.supports MOTOROLA MC68HC705J2	LEAPER-10 LP-U4
AB013	LP-SOP-MC68HC705P6/P9	1.28-pin SOP socket 2.supports MOTOROLA MC68HC705P6/P9	LEAPER-10 LP-U4
AB014	LP-SOP-TMP87P808M (BM11116)	1.28-pin SOP socket 2.supports TOSHIBA TMP87P808M *	all programmers
AB015	LP-SOP-PIC14000	1.28-pin SOP socket 2. supports MICROCHIP PIC14C000	LEAPER-10 LP-U4
AB016	LP-SOP-UNIVERSAL	1.universal 44-pin SOIC/TSOP socket 2.pin to pin for 40/42 pin DIP socket	all programmers
AB017	LP-SOP-GMS97C2051	1.20-pin SOP socket 2.supports LG GMS97C1051/2051	LEAPER-10 LP-U4

ITEM	MODEL NO.	DESCRIPTION	ADAPTABLE
		SSOP PACKAGE	
AC001	LP-SSOP-16PIN	1.16-pin SSOP socket 2.pin to pin for 16-pin DIP socket	all programmers
AC002	LP-SSOP-28PIN	1.28-pin SSOP socket 2.pin to pin for 28-pin DIP socket	all programmers
AC003	LP-SSOP-PIC14000	1.28-pin SSOP socket 2.supports MICROCHIP PIC14C000	LEAPER-10 LP-U4
		SOJ PACKAGE	
AD001	LP-SOJ-1MX1-300mil	1.20-pin SOJ 300mil socket 2.supports DRAM 1M x 1, 256K x 1	all programmers
AD002	LP-SOJ-4MX1-300mil	26-pin SOJ 300mil socket supports DRAM 4M x 1	all programmers
AD003	LP-SOJ-1MX4-300mil	1.26-pin SOJ 300mil socket 2.supports DRAM 1M x 4	all programmers
AD004	LP-SOJ-4MX1-350mil	1.26-pin SOJ 350mil socket 2.supports DRAM 4M x 1	all programmers
AD005	LP-SOJ-28PIN-300mil	1.28-pin SOJ socket 2.pin to pin for 28-pin DIP socket	all programmers
AD006	LP-SOJ-32PIN-300mil	1.32-pin SOJ socket 2.pin to pin for 32-pin DIP socket	all programmers
AD007	LP-SOJ-40PIN-400mil	1.40-pin SOJ socket 2.pin to pin for 40-pin DIP socket	all programmers
		TSOP PACKAGE	
AE001	LP-TSOP-8PIN	1.8-pin TSOP socket 2.for 8-pin DIP socket	all programmers
AE002	LP-TSOP-28PIN	1.28-pin TSOP socket 2.for 28-pin DIP socket	all programmers
AE003	LP-TSOP-32PIN STADARD pinout (SPRING TYPE)	1.32-pin TSOP socket 2.for 32-pin DIP socket	all programmers
AE004	LP-TSOP-32PIN REVERSE pinout (SPRING TYPE)	1.32-pin TSOP socket 2.for 32-pin DIP socket	all programmers
AE005	LP-TSOP-42PIN	1.42-pin TSOP socket 2.pin to pin for 42-pin DIP socket	all programmers
AE006	LP-TSOP-29F016 (SPRING TYPE)	1.48-pin TSOP socket 2.supports AMD 29F016	LEAPER-10 LP-U4
AE007	LP-TSOP-2XF008 (SPRINT TYPE)	1.40-pin TSOP socket 2.supports AMD 29F080, INTEL 28F008SA, 28F002BV /F004BV /F008BV-B/T, SGS M28F411	LEAPER-10 LP-U4
AE008	LP-TSOP-2XFX00 (SPRING TYPE)	1.48-pin TSOP socket 2.support AMD 29F100/200/400 /800, INTEL 28F100/200/400/800	LEAPER-10 LP-U4
AE009	LP-TSOP-MX29F1610/F8100 (SPRING TYPE)	1.48-pin TSOP socket 2.support MXIC MX29F1610, MX29F8100	LEAPER-10 LP-U4
AE010	LP-TSOP-29LV004/LV008 (SPRING TYPE)	1.40-pin TSOP socket 2.supports AMD 29LV004, 29LV008	LEAPER-10 LP-U4
AE011	LP-TSOPII-TC5816AFT	1.44-pin TSOPII socket 2.supports Toshiba TC5816AFT, Samsung KM29N040T, KM29N16000TS	LEAPER-10 LP-U4
AE012	LP-TSOP-32-MX25L4004	1.32-pin TSOP socket 2.supports MX25L4004	LEAPER-10 LP-U4
AE015	LP-TSOP-29C1024	1.40-pin TSOP socket 2.support ATMEL AT29C1024,AT29LV1024,AT49F4096	LEAPER-10 LP-U4

ITEM	MODEL NO.	DESCRIPTION	ADAPTABLE
AE016	LP-TSOP-48-2XFX00-NS	1.48-pin TSOP socket 2.supports AMD 29F100/200/400/800 INTEL 28F100/200/400/800	LEAPER-10 LP-U4
AE017	LP-TSOP-40-AT27C4096	1.40-pin TSOP socket 2.for 40-pin DIP Socket 3.supports 27C1024/27C2048/27C4096	all programmers
		PQFP PACKAGE	
AF001	LP-PQFP-44PIN	1.44-pin PQFP socket 2.for 8748/49, 8XC51/52/53 convert 40-pin DIP to 44-pin PQFP socket	all programmers
AF002	LP-PQFP-80PIN	1.80-pin PQFP socket 2.for HD407L4818,HD407L4808 convert 28-pin DIP to 80-pin PQFP socket	LEAPER-10 LP-U4
AF003	LP-PQFP-ispLSI1048	1.120-pin PQFP socket 2.supports Lattice ispLSI 1048	LEAPER-10 LP-U4
AF004	LP-PQFP-ispLSI1048C	1.128-pin PQFP socket 2.supports Lattice ispLSI 1048C	LEAPER-10 LP-U4
		PSOP PACKAGE	
AG002	LP-PSOP-AM29F100	1.44-pin PSOP socket 2.supports AMD 29F100/200/400/800	LEAPER-10 LP-U4
AG003	LP-PSOP-PA28F400	1.44-pin PSOP socket 2.supports INTEL 28F200, 28F400, 28F800 MXIC MX29F1610,MX29F8100	LEAPER-10 LP-U4
		QFP PACKAGE	
AH001	LP-QFP-44PIN	1.44-pin QFP socket 2.40-pin DIP to 44-pin QFP socket	all programmers
AH002	LP-QFP-HD407L4818H	1.80-pin QFP socket 2.supports HITACHI HD407L4818H	LEAPER-10 LP-U4
AH003	LP-QFP-7064QC100	1.100-pin QFP socket 2.supports ALTERA EPM7064QC100	LEAPER-10 LP-U4
AH004	LP-QFP-87C196	1.80-pin QFP socket 2.supports INTEL 87C196	LEAPER-10 LP-U4
AH005	LP-QFP-87C196KC	1.80-pin QFP socket 2.supports INTEL 87C196KC	LEAPER-10 LP-U4
AH006	LP-QFP-HD64F3048F	1.100-pin QFP socket 2.supports HITACHI HD64F3048F	LEAPER-10 LP-U4
AH007	LP-QFP-UPD75P3XXB	1.80-pin QFP socket 2.NEC uPD75P316	LEAPER-10 LP-U4
AH008	LP-QFP-80-uPD75P3018GC	1.80-pin QFP socket 2.NEC uPD75P3018	LEAPER-10 LP-U4
AH009	LP-QFP-80-uPD78P054GC	1.80-pin QFP socket 2.NEC uPD78P054GC	LEAPER-10 LP-U4
AH010	LP-QFP-100-uPD78P0208	1.100-pin QFP socket 2.supports NEC uPD78P0208	LEAPER-10 LP-U4
AH011	LP-QFP-64-up75P108B	1.64-pin QFP socket 2.supports NEC uPD75P108B	LEAPER-10 LP-U4
		TQFP PACKAGE	
AP001	LP-TQFP-80-uPD75P3018GK	1.80-pin TQFP socket 2.NEC uPD75P3018GK	LEAPER-10 LP-U4
AP002	LP-TQFP-80-uPD78P54GK	1.80-pin TQFP socket 2.NEC uPD78P054GK	LEAPER-10 LP-U4
		SDIP PACKAGE	
AI001	LP-SDIP-HD4074314/16/18	1.42-pin SDIP sockets 2.supports HITACHI HD4074314/16/18	LEAPER-10 LP-U4

ITEM	MODEL NO.	DESCRIPTION	ADAPTABLE
AI002	LP-SDIP-TMP47P400VN (BM1118)	1.42-pin SDIP socket 2.supports TOSHIBA TMP47P400VN *	all programmers
AI003	LP-SDIP-TMP47P422VN (BM11102)	1.42-pin SDIP socket 2.supports TOSHIBA TMP47P422VN *	all programmers
AI004	LP-SDIP-TMP47P443VN (BM11100)	1.28-pin SDIP socket 2.supports TOSHIBA TMP47P443VN *	all programmers
AI005	LP-SDIP-TMP87P844N (BM11108)	1.42-pin SDIP socket 2.supports TOSHIBA TMP87P844N, TMP47P800N *	all programmers
AI006	LP-SDIP-UPD17P149	1.28-pin SDIP socket 2.supports NEC uPD17P149CT	LEAPER-10 LP-U4
AI007	LP-SDIP-TMP47P1638V (BM1169)	1.56-pin SDIP 2.supports TOSHIBA TMP47P1638V *	all programmers
A1008	LP-SDIP-64- 87C196MC/MH/MD	1.64-pin SDIP Socket 2.supports Intel 87C19CMC/MH/MD	LEAPER-10 LP-U4
A1009	LP-SDIP-64-Upd75P108B	1.64-pin SDIP Socket 2.supports NEC uPD75P108B	LEAPER-10 LP-U4
		DIP PACKAGE	
AJ001	LP-DIP-68HC705J2	1.20-pin DIP socket 2.supports MOTOROLA MC68HC705J2	LEAPER-10 LP-U4
AJ002	LP-DIP-68HC705P6/P9	1.28-pin DIP socket 2.supports MOTOROLA MC68HC705P6/P9	LEAPER-10 LP-U4
AJ003	LP-DIP-68705	1.32-pin & 40-pin DIP socket 2.supports MOTOROLAMC68705P3/P5, MC68705R3/R5, MC68705U3/U5	LEAPER-10 LP-U4 LEAP-U1
AJ004	LP-DIP-68HC705CX	1.40-pin DIP socket 2.supports MOTOROLA MC68HC705C8/A MC68HC705C4/A, MC68HC705C9/A	LEAPER-10 LP-U4 LEAP-U1
AJ005	LP-DIP-87C751	1.28-pin DIP 87C751 2.supports 87C748 ,87C749, 87C750,87C751,87C752	LEAP-U1 LEAPER-10 LP-U4
AJ006	LP-DIP-PIC16A	1.40-pin DIP socket 2.supports MICROCHIP PIC16C64/64A,PIC16C65/65A,PIC16C74/74A	LEAPER-10 LP-U4
AJ007	LP-DIP-TMS320	1.40-pin DIP socket 2.support TI TMS320E15/17	LEAPER-10 LP-U4
AJ008	LP-DIP-Z86E40	1.40-pin DIP socket 2.supports ZILOG Z86E40	LEAPER-10 LP-U4
AJ009	LP-DIP-COP8780	1.40-pin DIP socket 2.supports NS COP8780C/8781C	LEAPER-10 LP-U4
AJ110	LP-DIP-UM68P60(UMC)	1.40-pin DIP socket 2.supports UMC68P60	all programmers
AJ111	LP-DIP-TMP47P201VP (BM1187)	1.16-pin DIP socket 2.supports TMP47P201VP *	all programmers
AJ112	LP-DIP-PIC14000	1.28-pin DIP socket 2.supports MICROCHIP PIC14C000	LEAPER-10 LP-U4
AJ113	LP-DIP-42PIN	1.42-pin DIP socket 2.pin to pin	all programmers
AJ114	LP-DIP-GMS97C2051	1.20-pin DIP socket 2.supports LG GMS97C1051/2051	LEAPER-10 LP-U4
		TSSOP PACKAGE	
AK001	LP-TSSOP-8PIN	1.8-pin TSSOP socket 2.pin to pin	all programmers
		FPGA PACKAGE	
A001	LP-FPGA-68-87C196	1.68-pin PGA socket 2.support INTEL 8X9XBH,80C196KB	LEAPER-10 LP-U4

ITEM	MODEL NO.	DESCRIPTION	ADAPTABLE
SPECIAL PACKAGE			
AL001	LP-DRAM MODULE TESTER	1.software: RAM-MODU.OVL(U-1) 2.type number: 256K x 8 bites module 256K x 9 bites module 1M x 8 bites module 1M x 9 bites module 4M x 8 bites module 4M x 9 bites module	LEAP-U1 LEAPER-10 LP-U4 LP-SU1
AL002	LP-DRAM-72SIMM	1. 72-pin dynamic RAM module 2. type number: 256K x 32 bites module 256K x 36 bites module 1M x 32 bites module 1M x 36 bites module 4M x 32 bites module 4M x 36 bites module	LEAP-U1 LEAPER-10 LP-U4

ADAPTOR ONLY FOR LEAP-U1			
ITEM	TYPE	MODEL NO.	DESCRIPTION
AM001	PIC16.OVL	LP-U1-PIC16	1. supports MICROCHIP PIC16C54,PIC16C55, PIC16C56, PIC16C57
AM002	PIC16.OVL	LP-U1-PIC16A	1.18, 40 pin DIP socket 2.supports MOCROCHIP PIC16C61, PIC16C620, PIC16C621, PIC16C622, PIC16C64, PIC16C65, PIC16C71, PIC16C74, PIC16C68

ADAPTORS FOR EMULATOR			
ITEM	TYPE	MODEL NO.	DESCRIPTION
AN001	EPROM	LP-32DIP-32PLCC-MEM	1.DIP 28-pin to PLCC 32-pin 2.memory size:2764~27C512 3.DIP 32-pin to PLCC 32-pin 4.memory size: 27C010~27C080
AN002	EPROM	LP-40DIP-44PLCC-MEM	1.DIP 40-pin to PLCC 44-pin 2.memory size: 27C1024 to 27C4096 (16 bits)
AN003	EPROM	LP-32DIP-WICE-28F002	1. Supports all WICE for INTEL 28F002
AN004	EPROM	LP-32DIP-WICE-3.3V	1.supports WICE-8MA 2.for 3.3V ROM
AN005	8051	LP-40DIP-44PLCC-51	1.DIP 40-pin PLCC 44-pin 2.supports 8031/8051

Please contact Toshiba branch or distributor for the " * " adaptors.

"Adaptable all programmer" means not only for Leap programmer , but for other brands programmers.

Introduction

WICE PIC is special design of up-advanced development tool for Microchip PIC16C5X, PIC16CXX and PIC 17CXX series Microcontrollers. It is included the professional mode of main unit + EV POD+POD. It provides full range of hardware breakpoint, real time trace and source code debug for Assembler .

Special software function

*All the contents of registers, SFR, memory can be display or modify
*Single step or single over
*Watch dog enable/disable
*Assembler support:PICASME

Special Hardware function

*Real time emulate up to 20 MHZ
*8K breakpoints
*8K trace buffer
*8 external input breakpoints
1 hardware breakpoint
*Oscillate type:RC/XT/HS/LP
*Printer prot interface

Feature

*Full speed ICE of PIC16C5X(20MHz) ,PIC17C42(25MHz),etc.
*Macro cross assembler
*High-lever symbolic debugger
*Menu drive/keyboard command/interactive dialog command
*Step trace with register windows refresh
*Breakpoint(1hardware/no limit software) and options saved automatically
*Transferrable into Intel hex format
*Real-time forward and backward trace with 4K buffer
*Watchdog time out emulation
*Self Diagnose
*20K~25MHz OSC Internal programmable by 1Hz Resolution
*soft switch options select
- emulation/ microprocessor mode
- watchdog enable/ disable
- internal(200mA)/ external power source

System Requirements

*IBM PC XT/AT 386, 486, Pentium (or compatible) above or notebook
*1.44 floppy disk
*Mono or VGA monitor
*DOS 5.0 above
*Printer port interface

Physical & Environmental specifications

*Dimentions:22 *16.7 *5 cm
*Weight: 1Kgs
*Temperature: +5C to 45C
*Humidity: to 90%

Standard Accessories

*Main unit + EV POD + POD(Please refer the below EV POD LIST when ordering)
*AC adaptor
*Cable 25-pin
*EV flat cable
*Logic analyzer probe
*Operative software
*User's manual

NOTE: Accessories will be changed slightly subject to different EV POD & POD when ordering.

Option Accessories

(Please refer the below EV POD LIST)
*EV POD
*POD

EV POD LIST

EV POD	POD	Supported CPU	Package	Frequency
1601	165X	PIC16C52/54/54A PIC16C55/56/57/57A/58A PIC12C508/509	DIP	20MHZ
1602	1661	PIC16C61	DIP	10MHZ
	16622	PIC16C620/621/622	DIP	10MHZ
	1671	PIC16C71/710	DIP	10MHZ
	1674A	PIC16C62/63/64/65 PICC16C72/73/74/74A	DIP	10MHZ
	1684	PIC16C83/84	DIP	10MHZ
	1744	PIC17C42/42A/43/44	DIP	25MHZ