

COMPANY PROFILE

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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.

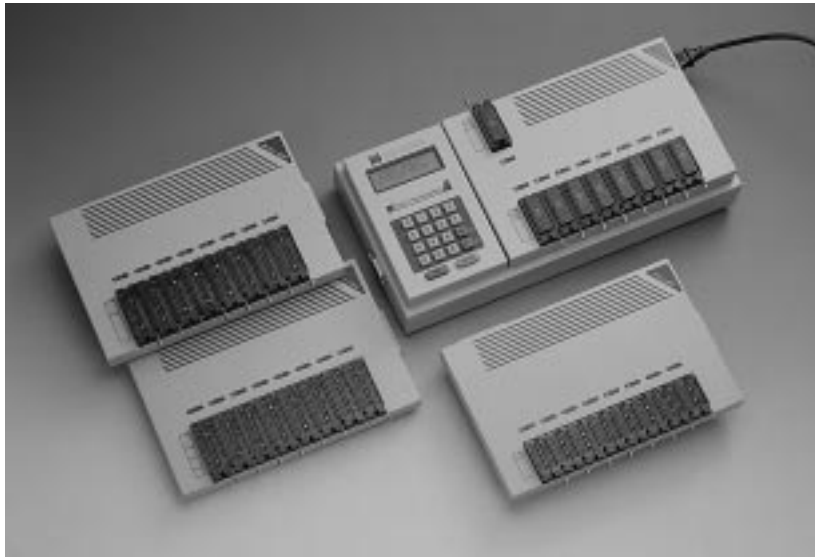
Leap is known for developing products under its own name. The Company currently offers four types of product lines which are Programmer, Emulator, Tester, Protector. They are developed and manufactured by using a broad range of processes and methods.

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 talents 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 earned Leap 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. i
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 i N4 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: i

- 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

SEEPROM-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			
28F001BX-T	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	
TMS27C020	TMS27C040		
Winbond			
W27F256	W27F512	W27F010	W27E256
W27E512	W27E010	W29EE512	W29EE011
W27E257	W27E040	W29C010	W29C020
W29C040			



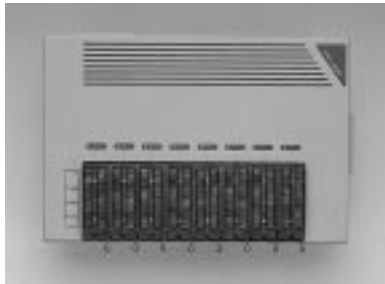
FLASH-328P/PA

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+
LATTICE	
GAL20V8A	GAL20V8B
GAL22V10	GAL22V10B
NS	
GAL20V8A	GAL22V10
SGS-THOMSON	
GAL20V8A	GAL22V10



EPM7032/64LC44

ALTERA

EPM7032	EPM7064
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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
XL24C16	XL24E16	XL9020
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
24AA16	24AA164	24AA174
24C01A	24C02A	24C04A
24C16B	24C32	24LC01B
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
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WINBOND

W78E51	W78E52	W78E54	W78E58
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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
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WINBOND

W78E51	W78E52	W78E54	W78E58
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AVR

ATMEL

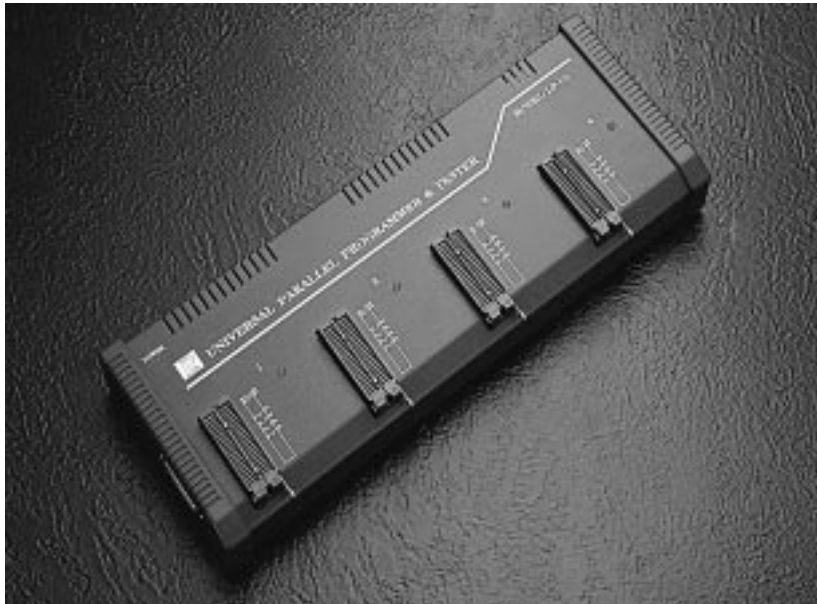
AT89C1051	AT89C2051	AT90S1200
AT90S2313	AT90S4414	AT90S8515

NT-68PX SERIAL

NT68P61	NT68P62	NT68P81
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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



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

Physical & Environmental Specifications

- *Dimension: 16cm X 11cm X 4.5cm
- *Weight: 0.5kg
- *Temperature: +5°C to +45°C
- *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 ; Microchip PIC 16Cxx , 17Cxx , 12Cxx family
- *68xxx family: Motorola 68705xx , 68HC705C8 , 68HC711xx family (adaptor)
- *Motorola 67HC705C8 family (adaptor)
- *Bipolar 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 programming 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 Accessories

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

Option Accessories

- *44-pin PLCC adaptor

Physical & Environmental Specifications

- *Dimension: 16cmx11cmx4.5cm
- *Weight:0.42kgs
- *Temperature: +5c to +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 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-alone 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



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 x 11cm x 4.5cm
- *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		
COMPARATORS				
LM139	LM193	LM239	LM293	LM339
LM393	LM2901	LM2903	LM3302	LP239
LP339	LP2901	TLC339	TLC393	
OPTO (OPTOCOUPERS)				
4N25	4N26	4N27	4N28	4N29
4N32	4N33	4N35	4N36	4N37
4N38	4N45	4N46		
TL111	TL116	H11A1	H11B1	H11D1
H11D2	H11D3	H11D4	CNY75	MCT2
PC817	PC827	PC837	PC847	K827P
K847P				
REG. (VOL TAGE REGULATORS)				
UA7805... (LM2930 - 5.0, LM2931 - 5.0, 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				



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: 16cm x 11cm x 4.5cm
- *Weight: 0.34kgs
- *Temperature: +5c to +45c
- *Humidity: to 90% noncondensing
- *Altitude: to 5000m

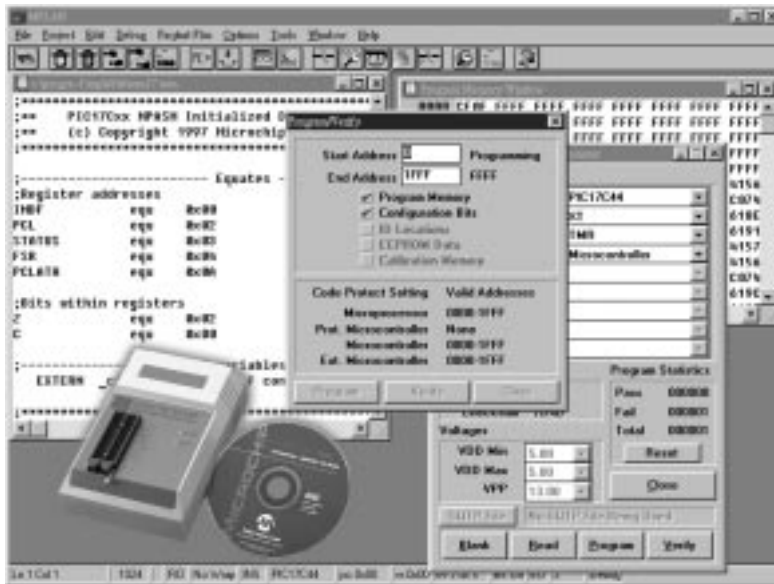
EMC standards

(per 89/336/EEC)

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

Supported Devices

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							
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							
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							
4164 41256 411000 414000 (DRAM 1-bit)							
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.

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LEAP-U1 UNIVERSAL PROGRAMMER & TESTER

13



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 Range)
- *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	
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	



Feature

- *High performance Tester, specially designed for Linear IC
- *Automatically search unknown IC number
- *Provide Self-Diagnosis function
- *Equipped with loop function, able to continuous test cycle for unstable IC
- *Programmable test voltage :0.1 to 25 voltage/250mA current 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

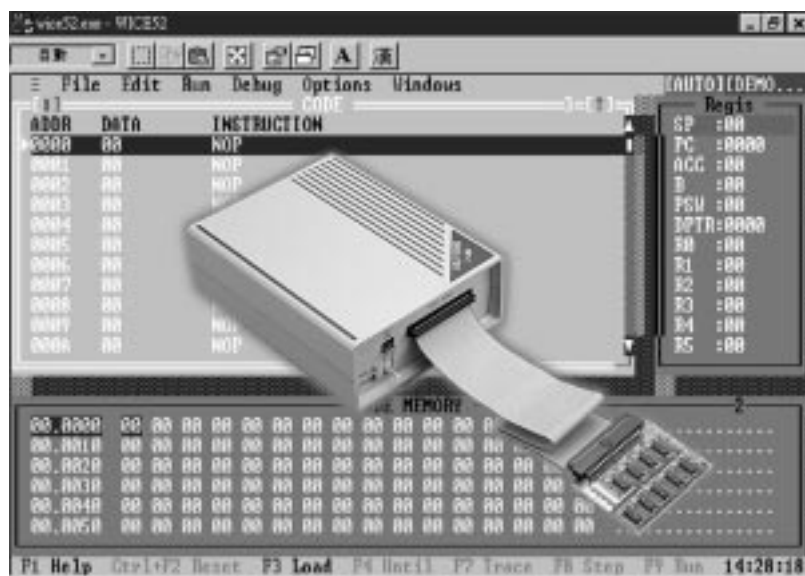
- * Operation Voltage: AC110V/220V+/- 0%
- * Frequency Range:40 to 60 Hz

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					



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 assists 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:

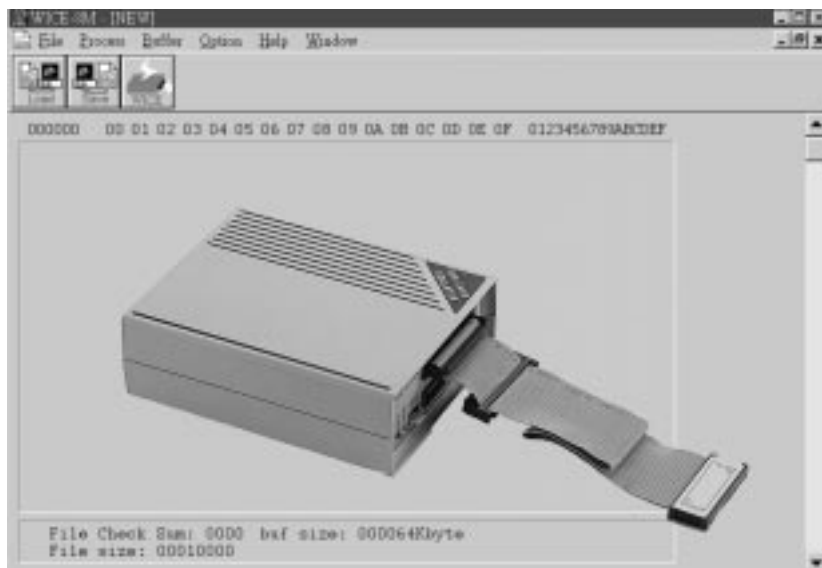
Mainframe x 1
26-pin cable x 1
40-pin module + flat cable x 1
2-pin signal line hook x 1
40-pin IC socket x 1
DC power supply x 1
EXT CRYSTAL adaptor x1
System software disk
User's manualx1

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 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 x 16	1	271024	27LV1024
128K x 16	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	-

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 x 8	1	27080	27LV080
64K x 16	1	271024	27LV1024
128K x 16	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	-



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 X 15.5 X 5.4cm
- * Weight: 0.8 kg
- * Input voltage: 9V, 500mA
- * Operating Temperature: +5C to +45C
- * Humidity: to 90% noncondensing
- * Altitude: to 5000m

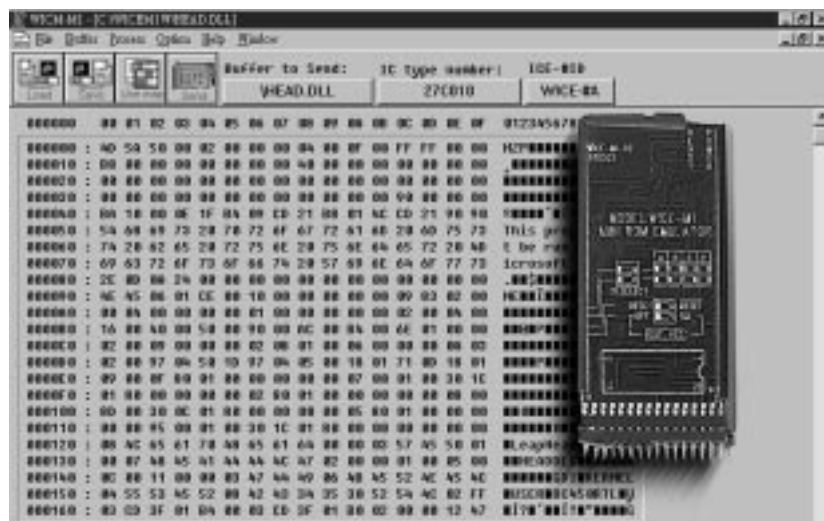
Supported Devices

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 x 16	1	271024
128K x 16	1	272048
256K x 16	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 x 16	1	271024
128K x 16	1	272048
256K x 16	1	274096
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



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 X 4cm X 1.5cm
- * 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/off 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 indication 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.

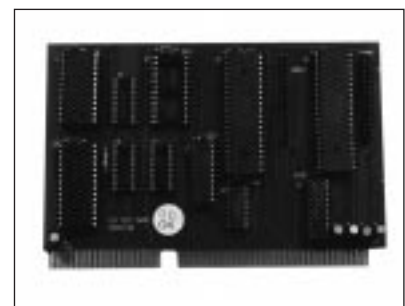
LEAP ELECTRONIC presents PCFACE-III which can prevent those problems for you.

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/off 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 indication in four LED.



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

21



- (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

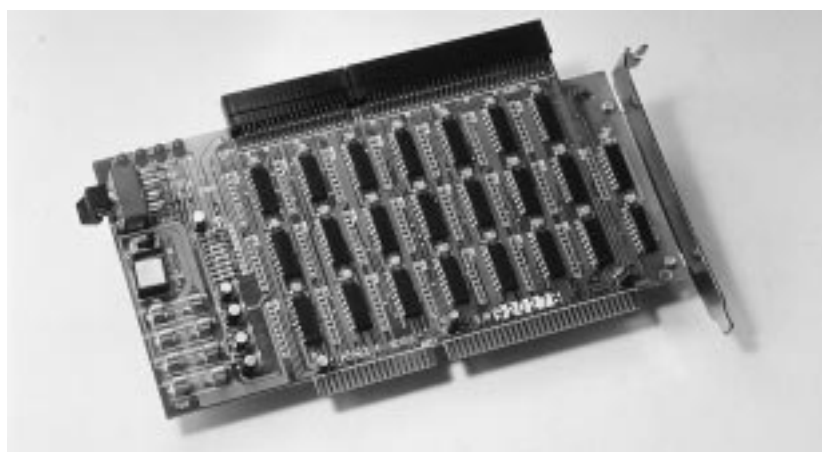
Specifications:

- * Dimension 22x10x2cm
- * Weight: 0.58kgs
- * Temperature: +5 C to + 45C
- * Humidity: to 90% noncondensing
- * Altitude: to 5000m

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 be used to measure
- * Remove or insert the interface cards without switching off PC power
- * 8/16 interface cards can be extended to outside
- * Applicable circumstances

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



- * I/O cards
- * Sound cards
- * MPEG cards

Physical & Environmental

Specifications:

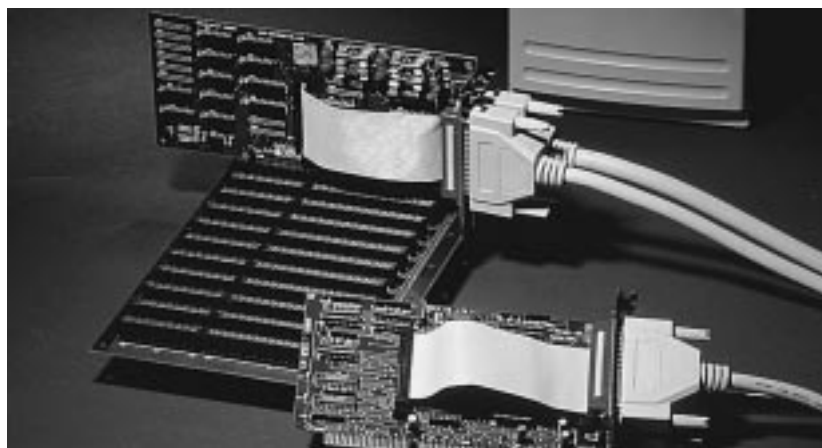
- * Dimension 22x13x2cm
- * Weight: 0.19kgs
- * Temperature: +5 C to + 45C
- * Humidity: to 90% noncondensing
- * Altitude: to 5000m

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



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 troubleshooting 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

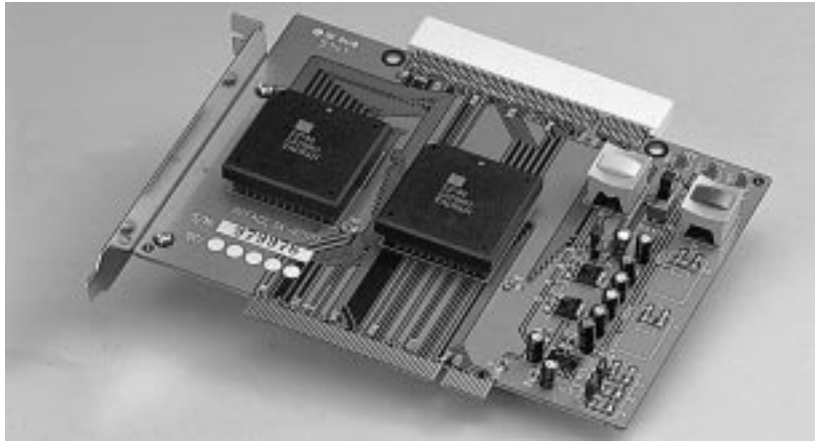
- *45cm extension between host PC and expansion box
- *Double-shielded extension cables with DB-62/37 connectors

Master Interface

- *Bus speed: 8MHz maximum
- *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



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. Unnecessary 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 applied 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.

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

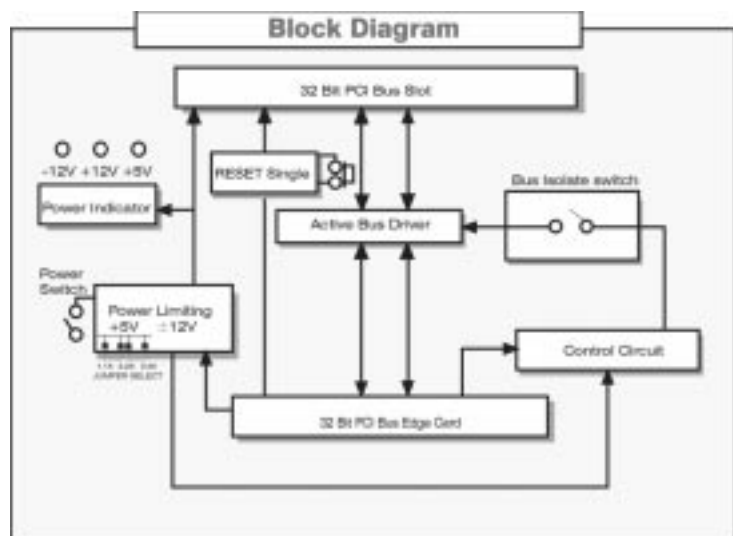
- * 3 indicator of 5V, 12V, -12V
- * Switches of POWER, CONNECT/ISOLATE and RESET.
- * 32-bit PCI slot capacity
- * Auto overload protect on 5V(3.3A), 12V(500mA), -12V(200mA): Board has selectable 5V power limit jumper with 1.1A/2.2A/3.3A. Over current can be supervised by through the indicator.
- * 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.

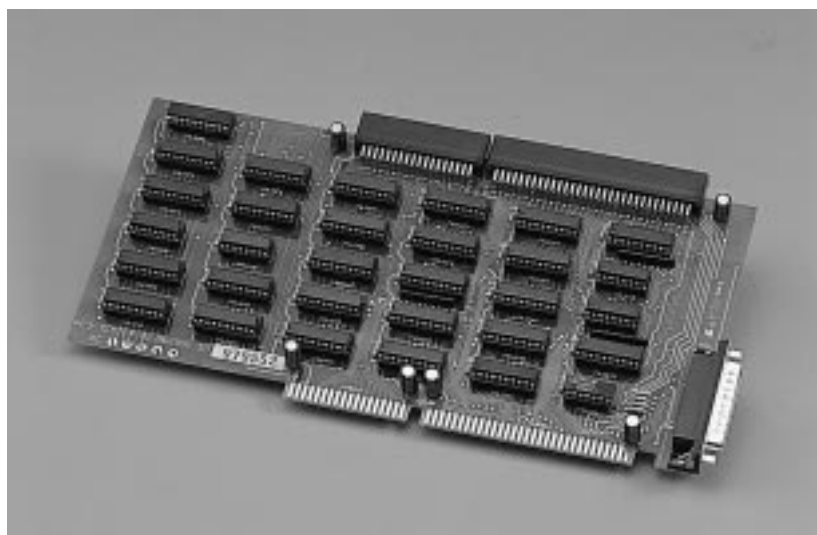
Spotlights

- * 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





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:

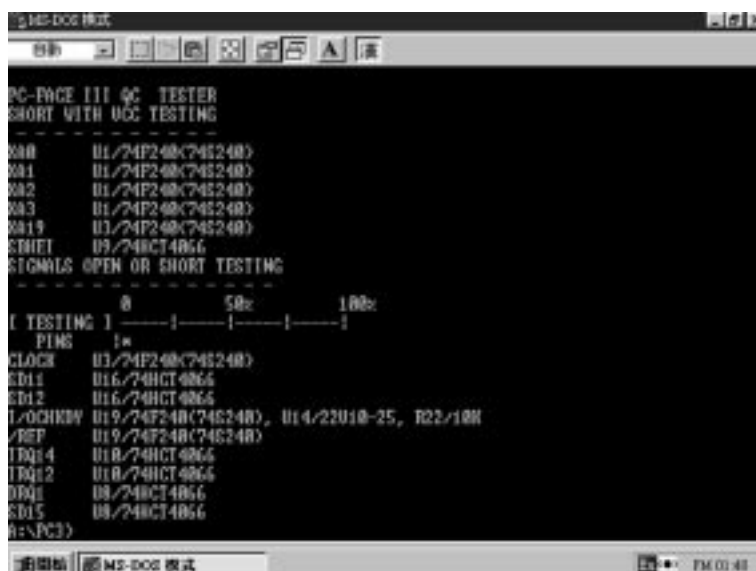
- (1) PC3C.EXE for testing interface card, PC3M.EXE for testing PCFACE-III main unit.
- (2) PC3T.EXE is the test/maintenance program: For the convenience of maintenance it will send out wave curve on signal pin-out of ISA/EISA BUS after execute.

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





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.

- *Provides almost completely erase area
- *Rugged metal construction but light as you can easy carry.

Standard Accessories

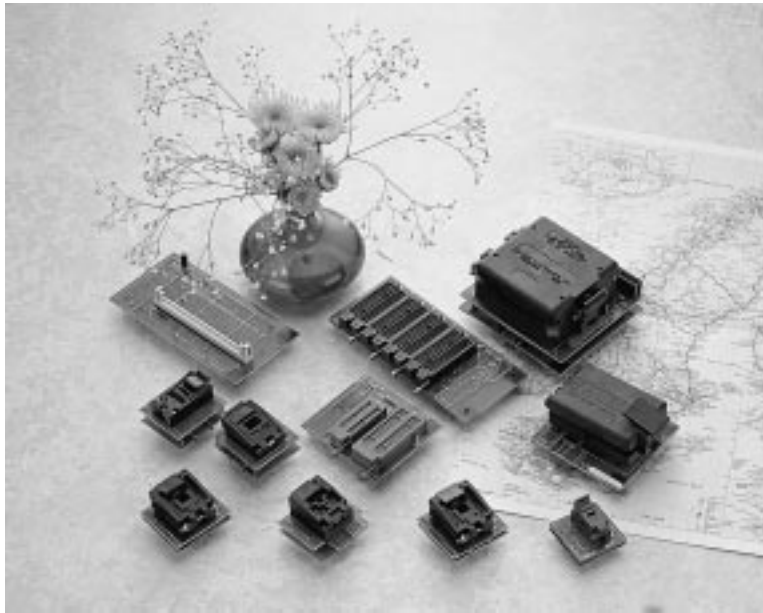
- *main unit x1
- *operation manual x1
- *DC power adaptor x1(121A) or power line (123A)

Specification

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

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/cm ²	5000μW/cm ²
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/50HZ AC 220V/50HZ AC240V/50HZ



- * 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 ADAP-TORS & CONVERTERS"for details.

CONTENTS

DESCRIPTION	PACKAGE EXAMPLE	PAGE
PLCC: Plastic Leaded Chip Carrier		1
SOP: Small-Outline Package		4
SSOP: Shrink Small-Outline Package		5
TSOP: Thin Small-Outline Package		5
TSSOP: Thin Shrink Small-Outline Package		7
PSOP: Plastic Small-Outline Package		6
SOJ: J-Leaded Small-Outline Package		5
QFP: Quad Flat Package		6
PQFP: Plastic Quad Flat Package		6
PDIP: Plastic Dual-in-Line Package		5
SDIP: Shrink Dual-in-Line Package		6

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 STANDARD 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 (SPRING 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-TSOP-II-TC5816AFT	1.44-pin TSOP-II 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 MX1C 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-uPD78P054GK	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 87C196MC/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.



- 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

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

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-level symbolic debugger
- * Menu drive/keyboard command/interactive dialog command
- * Step trace with register windows refresh
- * Breakpoint(1 hardware/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

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	DIP	20MHZ
		PIC16C55/56/57/57A/58A		
		PIC12C508/509		
1602	1661	PIC16C61	DIP	10MHZ
	16622	PIC16C620/621/622	DIP	10MHZ
	1671	PIC16C71/710	DIP	10MHZ
	1674A	PIC16C62/63/64/65	DIP	10MHZ
		PIC16C72/73/74/74A		
	1684	PIC16C83/84	DIP	10MHZ
	1744	PIC17C42/42A/43/44	DIP	25MHZ