EQUIPMENT
ADVANTECH

LabTool-T400

Turbo Flash Gang Programmer

- Support 1.2/1.8/3.3 Chip Without Adapter
- Program/verify 128 MB Flash Within 40sec
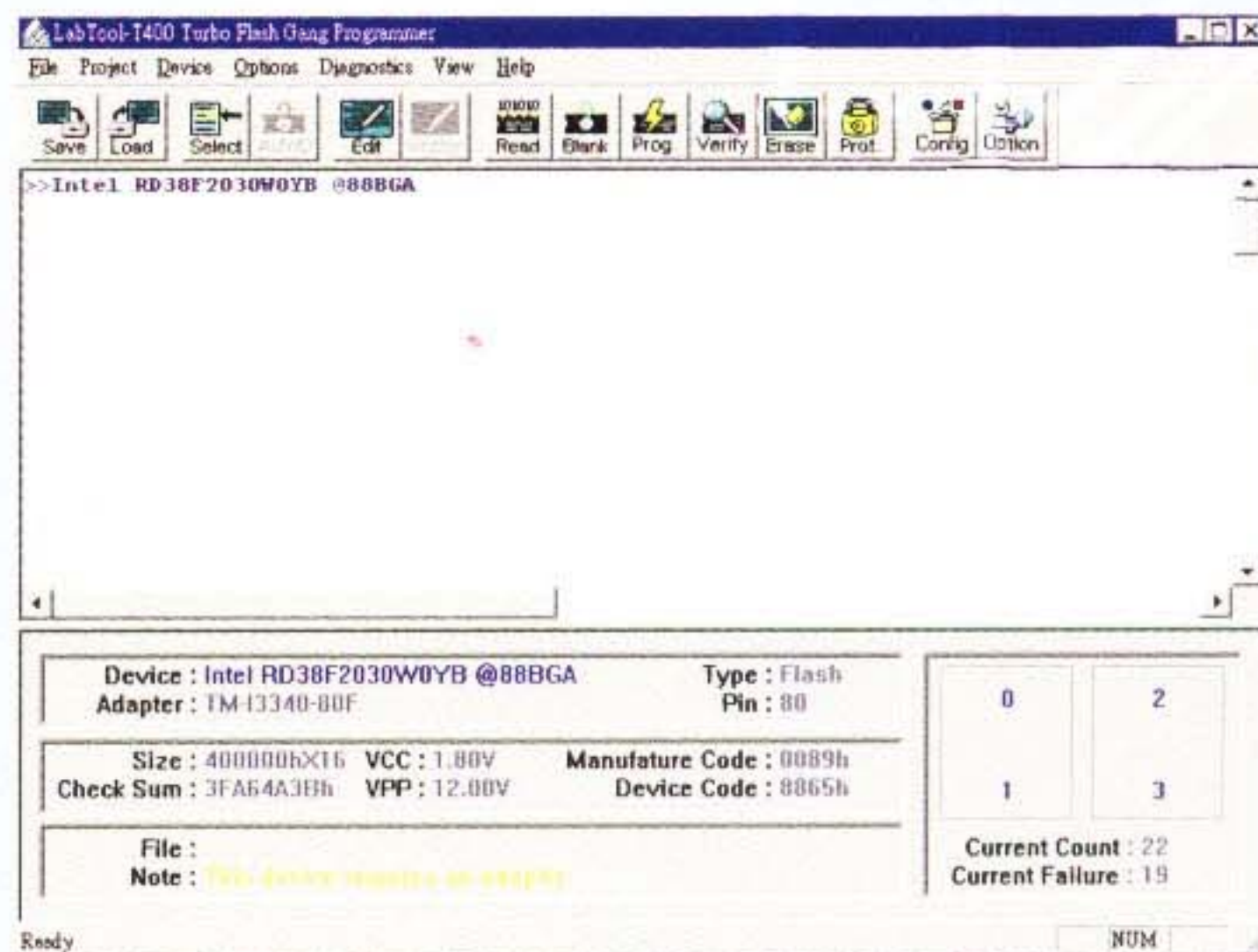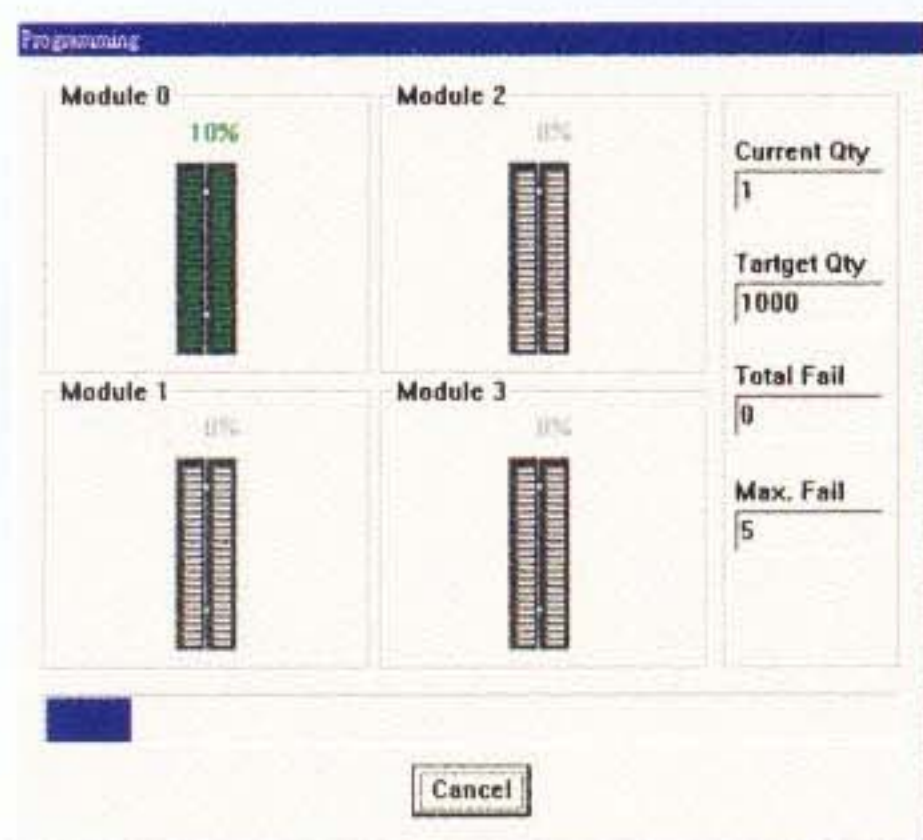- USB interface one pc can control Multiple LabTool-400

TM-A3208-56F

EQUIPMENT
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LAB TOOL-T400
TURBO FLASH GANG PROGRAMMER

BUSY
ERROR
GOOD

TM-I3340-80F   TM-I3340-80F

TM-I3340-80F   TM-I3340-80F

CE   Microsoft WindowsNT Compatible

Support Win98 Win2000 Win XP

LabTool-T400

Features

Support 3.3 to 1.2V Flash memory chip in VCC and I/O without low voltage converter.

Flash chip support up to 128G bit.

Extremely high speed: it blank check a 64M bit flash chip in 1.6 seconds, program the STM28W640CT (4 word programming algorithm) within 11.5 seconds, verify within 3.2 seconds.

USB interface: support USB 1.1 or 2.0, one PC can connect up to 16 unit Labtool-T400 to perform Asynchronous programming

Device insertion /continuously check before programming.

Target quantity and Max failure rate alarm.

Full Windows support: Win98, Win 2000 and Win XP.

Introduction

LabTool-T400 Turbo Flash Gang Programmer is four sockets PC-based Gang Programmer. It features four independent isolated modules, extremely high speed in writing flash memory chip. It supports 3.3V, 2.7V, 1.8V and 1.2V chip in both VCC and I/O without low voltage converter and handles 8/16/32 bit flash chip in different package through adapter modules, up to 128Gb flash can be support. The LabTool-T400 is an ideal programmer for customers in GSM, 3G Mobile, PDA, Internet router and others.

Un-beatable programming speed and through-put.

The LabTool-T400 has build in Compact Flash Card (CF) on board that reduce the massive data transfer between the PC and LabTool-T400 .The LabTool-T400 performance reach the speed limitation of the chips in its spec. No other gang programmer today and future can beat the speed of the LabTool-T400.
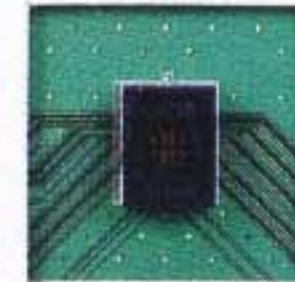
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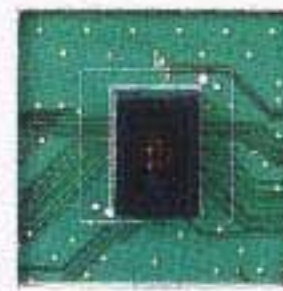
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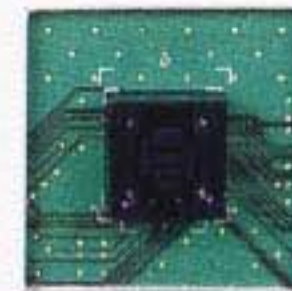
TM-I3204-64F

TM-UNIV-48TS

TM-I3340-80F

LabTool-T400 performance (PC with P4 1.3G 128M RAM)

Following is the programming speed of LabTool-T400 with different algorithm implement.

	STM 4 Word algorithm	Intel EFP algorithm	SPANSION word algorithm
Blank check	1.65s per 64Mb	1.65s per 64Mb	1.65s per 64Mb
Programming	11.5 s per 64Mb	16.6s per 64Mb	29.5s per 64Mb
Verify	3.2s per 64Mb	3.2s per 64Mb	3.2s per 64Mb
Total = Blank Check + Program + Verify	STM28W640E in 16.3 second	GE 28F640W30B in 21.4second GE 28F128W30 in 42.8 second	Am29DL640G in 34.5second

3.3V to 1.2V chip in VCC and I/O support

The LabTool-T400 use the 90nm FPGA chip in hardware design, it can handle the chip from 3.3V to 1.2V in both VCC and I/O without need special low voltage converter circuit. This new technology fulfils customer's need and makes customer's investment fully protected.

High density chip support

The LabTool-T400 has reserved the growth potential in chip's density. It covers 8/16 bit flash today and future's 32 bit flash chip. Its I/O pin driver can cover flash with Max 128G bit in density. This growth potential protected customer's investment without purchasing a new generation programmer over a decade in future.

Turbo Flash Gang Programmer

Expansion through USB Hub and configure as a multi station asynchronous Gang Programmer

The LabTool-T400 interface with PC through USB interface, which support USB 1.1 and 2.0. If customer needs more units in production, just purchase extra LabTool-T400 and connect those LabTool-T400 through USB Hub, up to 256 LabTool-T400 can be attached to one PC. Recommend with 8-16 unit LabTool-T400 control by one PC to avoid performance decrease. Such configuration has significantly reduces the cost per station with low initial purchase cost and growth potential in future.

Adapter modules with ID

The LabTool-T400 adapter module has independent ID. After inserting the module in the LabTool-T400, system will detect the module's ID and compare the corresponding adapter modules with the chip select in software. This future prevents the wrong adapter module insert or wrong chip selection in operation.

Device insertion and contact checks--No mistakes!

The LabTool-T400 performs device insertion and contact checks before it programs each device. It can detect poor pin contact. This function protects your pocketbook by preventing expensive chip damage due to operator mistake.

Auto-sensing and self-programming

To meet mass production requirements the LabTool-T400 has implemented patented technology in both its hardware and software. After entering the Mass-production Mode, the production line operator inserts a device into the adapter module, the LED on the LabTool-T400 indicates the device is busy, good or error, the operator follow the LED and take necessary action to remove or insert the chip. No formal training is needed. In addition, the LabTool-T400's auto-sensing feature ensures the device inserted correctly and automatically programs the device without press any key. Furthermore, in the mass-production mode the system keyboard is automatically disabled to prevent any inadvertent mistakes.

Project file save and load

User can create and save a project file that contains device selection, buffer data and all the programming set-up options. This project file can be called upon at any time for future usage without having to go through the setting up procedure again. Your design file can easily pass to production department without making any mistake.

Target quantity and maximum failure rate alarm

The LabTool-T400 software has the capability that allow user to set the target quantity chip he intend to program User also can set the maximum failure rate he can accept, once the failure rate exceed the max limit or the accumulated program chip reach the target quantity, the software will generate a warring message on the screen and operator can take necessary action.

Specification:

Device support

Flash memory: include NOR , NAND, EEPROM and other flash technology
Device data width: 8, 16 and 32 bit
Max flash density support: 512Mb with 128M byte Compact Flash Card install on board (standard offer), can be extend to 128Gb with exchange higher density Compact Flash Card on system hardware.

Adapter modules

Accept 4 independent fully isolated adapter modules on each LabTool-T400.

Pin Driver on each socket module:

Four DACs for VCC, VPP1, VPP2 and VPP3 with 8 bit resolution.
I/O pin driver: Max 80 pins with 24mA sink/pin, I/O range from 1.2V to 3.3V
Power pin driver: Max 8 pin with 250mA/pin voltage range from 1.2V to 3.3V
High voltage pin: Max 15 pins with 100mA/pin voltage range 1.2V to 12V.
Real ground pin: Max 4 pins, with 500mA sink per pin.
Virtual ground pin: Max 8 pins with 350mA sink per pin.

Device operation:

Read, Blank check, Verify, Compare, Erase, Program, Check sum, Memory protect , Edit buffer , Mass production mode, Load file, Save file, Project file save, Configuration, Operation option.

File format

Binary, Intel Hex, Intel Ext Hex, Motorola S, HP64000 ABS, straight Hex

Interface to PC

Accept USB 1.1 or USB 2.0

PC system requirement:

OS: Win 98 , Win 2000, Win XP or
CPU: Pentium and above.
Memory: 128M and above.
Hard Disk: over 100M free space
CD ROM driver.
Interface: USB 1.1 or 2.0 interface.

General

Power adapter: 65W AC 100-240/47-63HZ auto switch.
Out put: DC(12V/3A, 5V/6A).
Operation temp: 5 to 45 degree C
Safety: CE&LVD certified
Shipment Weight: 5.0 Kg without modules.

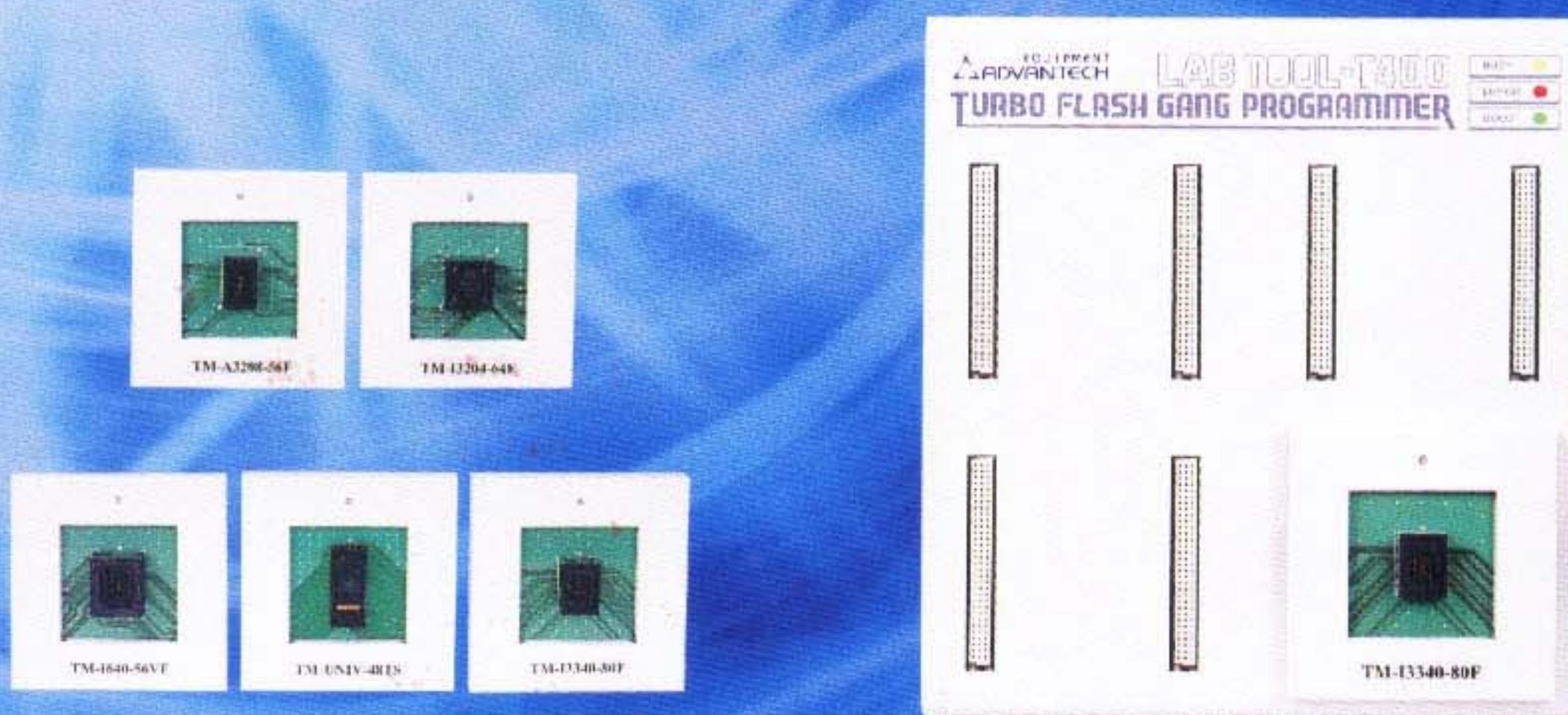Optional handler interface   USB interface   Power Adapter input

Order information

LabTool-T400   4 socket USB interface Turbo Flash Gang Programmer Windows software, USB interface cable and power adapter included (Must select and order 4 adapter modules separately)

Adapter Modules

TM-UNIV-48TS   48 pin TSOP (12mmx20mm) universal adapter for 48 pin TSOP type I package flash chip.

TM-UNIV-48TS/W   48 pin TSOP (12mmx14mm) universal adapter for 48 pin TSOP type II package flash chip.

TM-A256M-56TS   56 pin TSOP (14mmx20mm) adapter for Spansion 29LV256MH/ML flash chip.

TM-F640-56SS   56pin SSOP adapter for Intel DA 28F640/128J3 flash chip

TM-I3340-80F   80 pin uBGA adapter for Intel RD38Fxxx MCP with 8mmx10mm dimension ,0.8mm pitch flash chip.

TM-I3204-64F   64 pin uBGA adapter for STM 36Wxxx with 8mmX12mm dimension 0.8mm pitch chip.

TM-I128K-56VF   56pin VFBGA adapter for Intel GE28F128K with 9x11mm dimension ,0.75mm pitch chip.

TM-I256K-56VF   56 pin VFBGA adapter for Intel GE28F256K with 9x14.5 mm dimension , 0.75mm pitch chip.

TM-I128W-56VF   56 pin VFGBA adapter for Intel GE28F128W with 12.5x12.5mm dimension , 0.75mm pitch chip .

TM-A3208-56F   56 pin uBGA adapter for Spansion 42DLXXX MCP with 8mmx11.6mm dimension, 0.8mm pitch chip.

TM-I640-56VF   56 pin VFBGA adapter for Intel GE28F640W18 with 9mmx7.8mm dimension , 0.75mm pitch chip.

More adapter modules will be available upon request .

TM-I3204-64F

TM-A3208-56F   TM-I3204-64F

TM-I640-56VF   TM-UNIV-48TS   TM-I3340-80F

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