For programming of small to middle capacity NOR/NAND Flash, serial Flash, and Flash microcontrollers

Mass Production Device Programmer

AF9725

Standard buffer memory
1 Gbit
devices
Max. 8

Standard buffer memory
1 Gbit
devices
Max. 16

AF9724

Engineering Device Programmer

Standard buffer memory
1 Gbit
devices
Max. 1

AF9711

■ High speed data transfer

USB2.0 interface for high speed transfer and remote control realizes faster transfer of high density data.

1Gbit binary data transfer: approx. 20 sec

■ Full pin checking

Checks whether all pins of devices on adapters correctly contact before programming. Loose connections due to deteriorated terminals, device mounting failure, and short circuits between terminals are detected, improving programming efficiency and reliability. * Some devices not supported.

■ High speed programming

High speed programming/reading with the R/W cycle of up to 80nsec, 10 times faster than AF9845, and maximum 16bit data bus access.

■ USB 2.0 host function

Connectable with commercially available USB Flash memories, enabling downloading of master and algorithm data without PCs.

■ Automatic recognition & concurrent operation

A concurrent function is incorporated to begin automatic processing when the device mounting is detected, largely reducing the cycle time.

* Only when 2 slots are used. Not installed in AF9711.

Processing time examples (NOR Flash 256 Mbit) (sec)

Programmer	Program	B.P.V
AF9724 / 25 / 11	75	85
Previous models(AF9723B + AF9845B/C)	175	270

■ Product specifications

	AF9724	AF9725	AF9711
Supported devices	Up to 1Gbit 1.8 to 5V Flash memories, Flash microcontrollers, and other memories		
Speed	R/W cycle of up to 80 nsec		
Buffer memory	1Gbit as a standard (expansible to 16Gbit as an option)		
Concurrent programming	16 devices	8 devices	1device
No. of slots	16 slots	8 slots	1slot
Device functions	COPY · ERASE · BLANK · PROGRAM · VERIFY · B.P.V · E.P.V · E.P · P.V		
Programming power(Vcc)	1.2V to 6.5V (IccMax=500mA / 2 sockets)		1.2V to 6.5V (IccMax=250mA)
External interfaces	USB2.0 and USB host function		
Data bus	Up to 16bit		
Monitor display	20 characters×4 rows, LCD		20 characters×4 rows, LCD(option)
Input voltage/frequency	AC100 to 240V / 50 to 60Hz		
Power consumption	Up to 200VA		Up to 33VA
Size * excluding protrusions	W465×D330×H67mm		W135×D180×H50mm
Weight * excluding accessories	Approx. 6kg	Approx. 5.9kg	Approx. 0.7kg
Other	Compliant with RoHS		

High speed programming to SPI Flash memories

Dedicated adapters enables high speed programming without disturbing device capabilities.
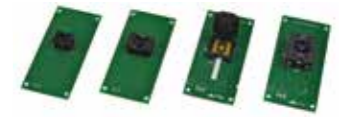Support single, dual, and quad modes.

Programming time examples(W25Q64FVSSIG 64Mbit) (sec)

	Models used	Program
Previous models	AF9724+AF9851A+TEF005-SIR8SPI-200	100
New models	AF9724+TK001-SPI8SOP-200	18

* The programming time depends on devices and environments.

Example of attaching dedicated adapters (TK series)

Various dedicated adapters

Examples of customization

■ Programming tools for wireless modules

For wireless modules, which are increasing due to IoT, we offer clip-type programming tools with pins that vertically descend and correctly contact with module terminals.
Connecters are not needed on circuit boards, which reduces component cost, work processes, and board size.

> We can produce various custom tools

Contact pins

Example of attaching adapters

■ Tests

We can establish various test systems to ensure reliability of programming quality.

Function test

Marginal test

Endurance / retention test

Burn-in test

Example of a custom burn-in board

DIP conversion units enabling use of previous conversion adapters

Conversion adapters for previous models can be used with dedicated DIP units (a paid option), which enables efficient use of your equipment.
(Some adapters are not supported)

Model name	Supported adapters	Names of previous models
48DIP Unit AF9851A	48 pin DIP Adapter	AF9845 series, AF9708/09 series, AF9710
40DIP Unit AF9852A	40 pin DIP Adapter	AF9837
32DIP Unit AF9853B	32 pin DIP Adapter	AF9833, AF9708/09 series

* In some cases, algorithm software needs to be adjusted. (free)
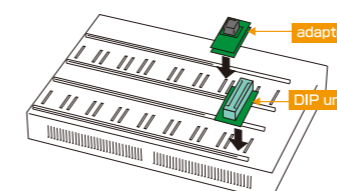
adapter
DIP unit

Example of attaching a DIP unit

Example of a DIP unit + adapter

Conversion adapter
Package Conversion Adapter

As compact, high-density, and complexed Flash memories rapidly increased, packages tailored to application specifications have been popular.
A wide variety of packages includes custom DIMM for each customer and many types of cards.
We offer conversion adapters for programmers that support memories of various semiconductor manufacturers.