PA711E9B(Z) Data Sheet

52 pin PLCC socket/32 pin DIP 0.6” plug

Supported Device/Footprints

Using this adapter, the Motorola 68HC711E9 in either PLCC or CLCC package can be programmed in PROG MODE or BOOT MODE.

BOOT MODE requires a programmer that explicitly supports the Motorola BOOT MODE. The Motorola SPGMR11 system is an example. Using BOOT MODE, the EPROM, EEPROM and CONFIG registers may be programmed. Instructions for BOOT MODE programming will depend greatly on the programmer.

The programmer used for PROG MODE must support the 27C256 (12.5V VPP, 28 pin DIP). A 32 pin to 28 pin adapter is neccesary (typically, a wire wrap socket is used).

BOOT MODE

	Device		Footprint	
Mfgr	Device	Package	Device	Plug
Motorola	68HC711E9	PLCC, CLCC	68HC711E9	32 pin DIP

PROG MODE

	Device		Footprint	
Mfgr	Device	Package	Device	Plug
Motorola	68HC711E9, 'E20	PLCC, CLCC	27C256	28 pin DIP

Adapter Parts & Part Numbers

The following chart shows the various socket and board part numbers that make up these adapters.

Adapter	Socket	Top Board	Bottom Board
PA711E9B	52-107	711E9	MC28-32
PA711E9B-Z	52-411	711E9Z	MC28-32

Adapter Construction

The adapter is made up of 3 sub-assemblies. They assemble via connectors making the adapter modular. This way the sub-assemblies can be replaced when they wear out.

When disassembling the adapter take care not to bend the pins. When reassembling the adapter note the pin 1 indicators to align the parts correctly.

Test Socket

PLCC Auto-Eject test socket:
Yamaichi Part #: IC120-0524-107 LSC Part #: 52-107
PLCC Lidded ZIF socket
Yamaichi Part #: IC51-0524-411 LSC Part #: 52-411

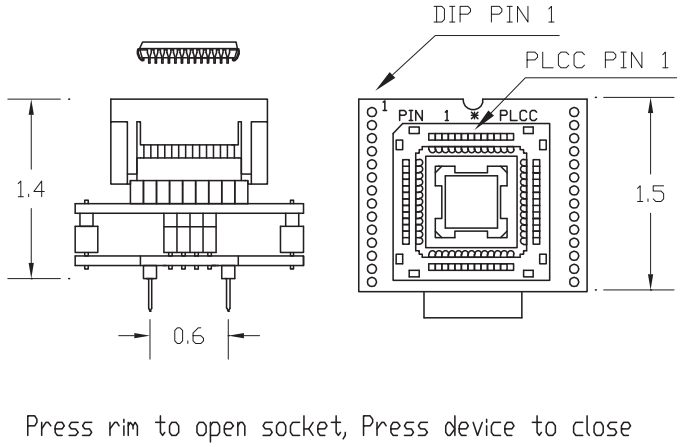
PA711E9(Z)

Accepts the test socket and performs the wiring shown in the Adapter Wiring section.

MC28-32

Connects the top board to the programmer.

Adapter Dimensions



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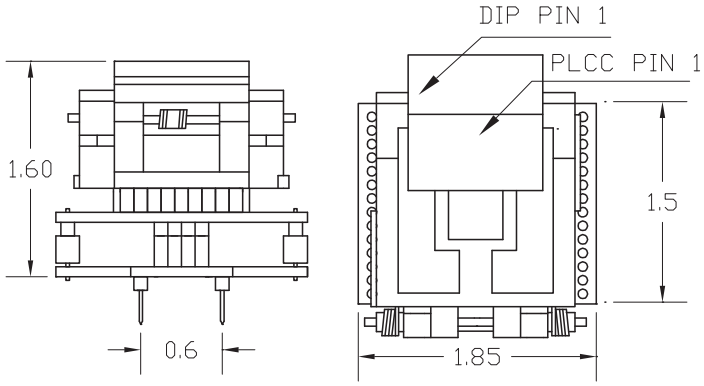

PA711E9B-Z

Adapters-Plus Inc.
P.O. BOX 900
Tracy, Ca 95378
ph.209-839-0200
fax.209-839-0235
email: sales@adapt-plus.com
www.adapt-plus.com

Adapter Wiring

The following chart shows the connections from the PLCC device to the adapter's DIP plug.

DEVICE	SIGNAL	PLUG	PLUG	SIGNAL	DEVICE
1	GND	14	14	GND	52
2	GND	14	14	GND	51
3	GND	14	14	GND	50
4	D6	22	14	GND	49
5	NC	-	14	GND	48
6	D7	23	14	GND	47
7	100K	14	14	GND	46
8	NC	-	14	GND	45
9	A0	10	14	GND	44
10	A1	9	14	GND	43
11	A2	8	29	A8	42
12	A3	7	28	A9	41
13	A4	6	25	A10	40
14	A5	5	27	A11	39
15	A6	4	2	A12	38
16	A7	3	30	A13	37
17	100K	14	31	A14	36
18	VPP	1	26	-OE	35
19	-CE	24	14	GND	34
20	D0	11	14	GND	33
21	D1	12	14	GND	32
22	D2	13	14	GND	31
23	D3	19	-	NC	30
24	D4	20	-	NC	29
25	D5	21	-	NC	28
26	VCC	32	14	GND	27

*100K Pull-down resistor.
There is a 0.1 uf capacitor between VCC and GND.

EPROM Address Mapping

During normal operation the 12K bytes of EPROM in an 'E9 is at address D000 thru FFFF. In PROG MODE the same EPROM is accessed by the programmer at addresses 1000 thru 3FFF. Additionally, PROG MODE addresses 0000 thru 0FFF of the 'E9 are not programmable (they always read as 00).

The value intended for address D000 will have to be programmed into address 1000 on the EPROM programmer. When installed and run the 'E9 will fetch that byte from address D000.

The executable/load address translation may be made at compile/assemble time or during programming. Some assemblers and linkers provide a PHASE command to generate HEX files where the EPROM address and executable addresses are not the same. Most programmers allow either the hex file to be loaded with an offset, or the EPROM to be programmed from anywhere in the RAM. Either method will do.

In PROG MODE A14 is a Don't Care. The programmer will access the same EPROM location in the 'E9 at addresses 0000 and 4000 (1000 and 5000 are the same). To prevent this from being a problem, either load the HEX file twice at both addresses or limit the programming range.

Programming Footprints

PROG MODE:

DEVICE	SIGNAL	PGMR	PGMR	SIGNAL	DEVICE
18	VPP	1	28	VCC	26
38	A12	2	27	A14	36
16	A7	3	26	A13	37
15	A6	4	25	A8	42
14	A5	5	24	A9	41
13	A4	6	23	A11	39
12	A3	7	22	-OE	35
11	A2	8	21	A10	40
10	A1	9	20	-CE	19
9	A0	10	19	D7	6
20	D0	11	18	D6	4
21	D1	12	17	D5	25
22	D2	13	16	D4	24
1	GND	14	15	D3	23

BOOT MODE:

DEVICE	SIGNAL	PGMR	PGMR	SIGNAL	DEVICE
18	VPP	1	32	VCC	26
38	NU	2	31	NU	36
16	NU	3	30	NU	37
15	NU	4	29	NU	42
14	NU	5	28	NU	41
13	NU	6	27	NU	39
12	NU	7	26	NU	35
11	NU	8	25	NU	40
10	NU	9	24	NU	19
9	NU	10	23	NU	6
20	D0/Rx*	11	22	NU	4
21	D1/Tx*	12	21	NU	25
22	NU	13	20	NU	24
1	GND	14	19	NU	23
21	Tx	15	18	EXTAL	7
17	RESET	16	17	Rx	20

NU = Pin not used in BOOT Mode.
*These device pins carry Rx & Tx signals in BOOT Mode, and are connected to programmer pins 15 & 17. The programmer must float pins 11 & 12. High impedance (100k or more) pulldowns may be used.

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