

VANTIS APPROVED PROGRAMMERS¹

For more information on the products listed below, please consult a local Vantis sales office.

Manufacturer	Model	Revision	Pin Count
Advin 1050-L E. Duane Ave. Sunnyvale, CA 94086 (408) 243-7000 www.advin.com	Pilot-U84	10.89	84
	Pilot-U40	10.89	40
	MVP	10.89	40
BP Microsystems 1000 N. Post Oak Rd., Suite 225 Houston, TX 77055-7237 (800) 225-2102 www.bpmicro.com	CP1128	3.35	28
	BP1148	3.35	48
	BP1200	3.35	240
	BP1400	3.35	240
	BP2100	3.35	240
Data I/O 10525 Willows Road N.E. Redmond, WA 98073-9746 (800) 426-1045 www.data-io.com	UniSite	5.8	84
	M2900	5.8	40
	M3900	5.8	84
	AutoSite	5.8	84
HI-LO/Tribal Systems 44388 S. Grimmer Blvd. Fremont, CA 94538 (510) 623-8859 www.hilosystems.com.tw	ALL-07	(Note 2)	68
	FLEX-700	(Note 2)	68
SMS Im Grund 15 D-7988 Wangen, Germany 011-4975-2297280 www.sms-sprint.com	Sprint Expert	A5/98	68
	Optima	A5/98	68
	Gang Multisyte	A5/98	84
Stag Silver Court Watchmead Welwyn Garden City Herts AL7 1LT, UK 011-44-1-707-332148 www.stag.co.uk	Quasar	10.89	84
	Eclipse	7.11.97	84
System General 1603-A S. Main Street Milpitas, CA 95035 (408) 263-6667 www.sg.com.tw	Turpro-1/FX/TX	2.70x	40

Notes:

1. Vantis does not support or accept rejects programmed on non-approved programmers.
2. Revision number is based on device type and module type.



MACH DEVICE PROGRAMMING UPDATE

For the most up-to-date information, please visit our Web site www.vantis.com

Device	Data I/O Autosite	Data I/O Unisite	Data I/O 2900	Data I/O 3900	BP Micro 1128	BP Micro 1200/1400
MACH 110	1.5	3.3	1.4	1.3	1.86	2.05
MACH 111	2.6	4.7	3.6	2.6	3.062	3.042
MACH 111SP	5.6	5.6	5.6	5.6	NS	3.19
MACH 120	1.5	3.3	1.4	1.3	1.86	2.05
MACH 130	1.5	3.4	1.9	1.3	1.86	2.05
MACH 131	2.6	4.7	3.6	2.6	3.062	3.042
MACH 131/1	5.8	5.8	NA	5.8	NS	3.24
MACH 131SP	5.6	5.6	5.6	5.6	NS	3.24
MACH 210A/Q	1.5	3.3	1.4	1.3	1.86	2.05
MACHLV210	2.1	4.3	3.1	2.1	2.25C	2.25C
MACH 211	2.7	4.9	3.7	2.7	NA	3.075
MACH 211SP	2.9	5.2	4	3.1	NS	3.122
MACH 215	1.5	3.3	1.4	1.3	1.86	2.05
MACH 220	1.5	3.3	3.5	1.3	1.86	2.05
MACH 221	2.8	5.0	NS	2.8	3.122	3.122
MACH 221SP	5.6	5.6	5.6	5.6	NA	3.24
MACH 230	1.5	3.3	3.5	1.3	1.86	2.05
MACH 231	2.7	4.9	NS	2.7	NS	3.07
MACH 231/1	5.1	5.1	NA	5.1	NS	3.122
MACH 231SP	5.1	5.1	5.8	5.1	NS	3.122
MACH 355 or M4-96/96	2.6	4.8	3.7	2.6	NS	3.053
MACH 435	1.6	4.1	2.0	1.6	NS	2.21C
MACH 436 or M4-128N/64	5.5	5.5	NA	5.5	NS	3.26
MACH 445	2.6	4.8	3.7	2.6	NS	3.053
MACH 446 or M4-128/64	5.5	5.5	5.5	5.5	NS	3.26
MACH 466 or M4-256/128	5.5	5.5	5.5	5.5	NS	3.26
M4-32/32 44 pin PLCC	NA	5.7x	NA	5.7x	3.35	3.35
M4-32/32 44 pin PQFP	NA	5.7x	NA	5.7x	3.35	3.35
M4-32/32 48 pin TQFP	NA	5.7x	NA	5.7x	3.35	3.35
M4-64/32 44 pin PLCC	5.8	5.8	5.8	5.8	3.35	3.35
M4-64/32 44 pin PQFP	5.8	5.8	5.8	5.8	3.35	3.35
M4-64/32 48 pin TQFP	5.8	5.8	5.8	5.8	3.35	3.35
M4-96/48 100 pin TQFP	NA	5.7x	5.7x	5.7x	NA	3.35
M4-192/96 144 pin TQFP	NA	5.7x	5.7x	5.7x	NA	NA
M5LV-128/68 100 pin PQFP	NA	NA	NA	NA	NA	3.35
M5LV-128/68 100 pin TQFP	NA	NA	NA	NA	NA	3.35
M5LV-128/74 100 pin TQFP	NA	NA	NA	NA	NA	3.35
M5LV-128/104 144 pin PQFP	NA	NA	NA	NA	NA	3.35
M5LV-128/104 144 pin TQFP	NA	NA	NA	NA	NA	3.35



MACH DEVICE PROGRAMMING UPDATE (CONTINUED)

For the most up-to-date information, please visit our Web site www.vantis.com

Device	Data I/O Autosite	Data I/O Unisite	Data I/O 2900	Data I/O 3900	BP Micro 1128	BP Micro 1200/1400
M5LV-128/120 160 pin PQFP	NA	NA	NA	NA	NA	3.35
M5LV-256/68 100 pin PQFP	NA	5.6x	NA	NA	3.31	3.31
M5LV-256/68 100 pin TQFP	NA	5.6x	NA	NA	3.31	3.31
M5LV-256/74 100 pin TQFP	NA	NA	NA	NA	NA	3.36
M5LV-256/104 144 pin PQFP	NA	5.6x	NA	NA	NA	3.36
M5LV-256/104 144 pin TQFP	NA	NA	NA	NA	NA	3.36
M5LV-256/120 160 pin PQFP	NA	5.8	NA	NA	3.31	3.31
M5LV-256/160 208 pin PQFP	5.8	5.8	5.8	5.8	3.31	3.31
M5-128/68 100 pin PQ/TQ	5.6	5.6	5.6	5.6	NS	3.24
M5-128/104 144 pin PQFP	5.6	5.6	5.6	5.6	NS	3.23
M5-128/120 160 pin PQFP	5.6	5.6	5.6	5.6	NS	3.21
M5-192/68 100 pin PQ/TQ	5.6	5.6	5.6	5.6	NS	3.16
M5-192/104 144 pin PQFP	5.6	5.6	5.6	5.6	NS	3.23
M5-192/120 160 pin PQFP	5.6	5.6	5.6	5.6	NS	3.16
M5-192/160 208 pin PQFP	5.6	5.6	5.6	5.6	NS	3.16
M5-256/68 100 pin PQ/TQ	5.6	5.6	5.6	5.6	NS	3.17
M5-256/104 144 pin PQFP	5.6	5.6	5.6	5.6	NS	3.23
M5-256/120 160 pin PQFP	5.6	5.6	5.6	5.6	NS	3.17
M5-256/160 208 pin PQFP	5.6	5.6	5.6	5.6	NS	3.17
M5-320/120 160 pin PQFP	5.6	5.6	5.6	5.6	NS	3.26
M5-320/160 208 pin PQFP	5.6	5.6	5.6	5.6	NS	3.26
M5-320/184 240 pin PQFP	5.6	5.6	5.6	5.6	NS	3.26
M5-320/192 256 ball BGA	5.6	5.6	5.6	5.6	NS	3.26
M5-384/120 160 pin PQFP	5.6	5.6	5.6	5.6	NS	3.26
M5-384/160 208 pin PQFP	5.6	5.6	5.6	5.6	NS	3.26
M5-384/184 240 pin PQFP	5.6	5.6	5.6	5.6	NS	3.26
M5-384/192 256 ball BGA	5.6	5.6	5.6	5.6	NS	3.26
M5-512/120 160 pin PQFP	5.6	5.6	5.6	5.6	NS	3.24
M5-512/160 208 pin PQFP	5.6	5.6	5.6	5.6	NS	3.21
M5-512/184 240 pin PQFP	5.6	5.6	5.6	5.6	NS	3.26
M5-512/192 256 ball BGA	5.6	5.6	5.6	5.6	NS	3.26
M5-512/256 352 ball BGA	5.6	5.6	5.6	5.6	NS	3.26

Notes:

1. Entries in this table are minimum required programming algorithm revisions. These revisions or current approved revisions are acceptable.
2. EV=Engineering version, under evaluation
3. NS=Not supported due to hardware limitations or marketing considerations; NA=contact Vantis or programmer vendors for support information.
4. x=Programming support on the programmer manufacturer's bulletin board is to be used with indicated revision
5. MACH is a registered trademark of Vantis Corp.



MACH DEVICE PROGRAMMING UPDATE (CONTINUED)

Device	Stag Eclipse	HI-LO/Tribal ALL07/Flex700	ADVIN U40 / U84	SMS/Sprint Expert	Sys General Turpro-1/FX/TX
MACH 110	6.6.5	3.06	10.21	1/93	1.5
MACH 111	6.6.5	3.06	10.78C	A/95	2.21
MACH 111SP	7.1.30	3.33	10.85C	A7/97	2.32B
MACH 120	6.6.5	3.04	10.21	1/93	1.5
MACH 130	6.6.5	3.17	10.21	3/91	1.5cf
MACH 131	6.6.5	3.17	10.78C	A6/95	2.21
MACH 131/1	7.8.1	3.18D	10.85F2	B0/97	2.32B
MACH 131SP	7.6.13	3.18C	10.85F1	B0/97	2.32B
MACH 210A/Q	6.6.5	3.06	10.21	1/93	1.5
MACHLV210	6.6.5	3.06	10.75A	B5/96	2.12F
MACH 211	6.6.5	3.06	10.81	C/95	2.24A
MACH 211SP	7.1.30	3.32	10.83B	B5/96	2.25c
MACH 215	6.6.5	3.06	10.21	1/93	1.5
MACH 220	6.6.5	3.04	10.21	1/93	1.5
MACH 221	6.6.5	3.04	10.38B	VA/96	2.26
MACH 221SP	7.6.13	3.19B	10.86H	A0/97	2.32B
MACH 230	6.6.5	3.17	10.21	B/94	1.5cf
MACH 231	6.6.5	3.17	10.78C	A/95	2.21
MACH 231/1	6.6.5	3.17	10.83B	C0/96	2.25c
MACH 231SP	7.7.21	3.17	10.83B	B5/96	2.25c
MACH 355 or M4-96/96	7.8.1	3.17	10.80F	A6/95	2.21
MACH 435	6.6.5	3.17	10.65	1/93	1.68G
MACH 436 or M4-128N/64	7.9.4	3.19C	10.86J	B0/97	2.32D
MACH 445	7.1.30	3.17	10.80F	A6/95	2.21
MACH 446 or M4-128/64	7.9.4	3.19C	10.86J	A7/97	2.32B
MACH 466 or M4-256/128	7.9.4	3.19D	10.85E	A0/97	2.30K
M4-32/32 44 pin PLCC	NA	3.34D	NA	A5/98	NA
M4-32/32 44 pin PQFP	NA	3.34D	NA	A5/98	NA
M4-32/32 48 pin TQFP	NA	3.34D	NA	A5/98	NA
M4-64/32 44 pin PLCC	NA	3.34B	NA	A0/98	2.70E
M4-64/32 44 pin PQFP	NA	3.34B	NA	A0/98	NA
M4-64/32 48 pin TQFP	NA	3.34B	NA	A0/98	NA
M4-96/48 100 pin TQFP	NA	3.20J	NA	NA	NA
M4-192/96 144 pin TQFP	NA	3.20P	NA	NA	NA
M5LV-128/68 100 pin PQFP	8.10.16	3.03A	NA	B0/98	NA
M5LV-128/68 100 pin TQFP	8.10.16	3.03A	NA	B0/98	NA
M5LV-128/74 100 pin TQFP	NA	3.03C	NA	B0/98	NA
M5LV-128/104 144 pin PQFP	NA	3.03A	NA	B0/98	NA
M5LV-128/104 144 pin TQFP	NA	3.03A	NA	B0/98	NA
M5LV-128/120 160 pin PQFP	NA	3.03A	NA	B0/98	NA



MACH DEVICE PROGRAMMING UPDATE (CONTINUED)

Device	Stag Eclipse	HI-LO/Tribal ALL07/Flex700	ADVIN U40 / U84	SMS/Sprint Expert	Sys General Turpro-1/FX/TX
M5LV-256/68 100 pin PQFP	8.10.16	3.03A	NA	B0/98	NA
M5LV-256/68 100 pin TQFP	8.10.16	3.03A	NA	B0/98	NA
M5LV-256/74 100 pin TQFP	NA	3.03D	NA	B0/98	NA
M5LV-256/104 144 pin PQFP	8.10.16	3.03D	NA	B0/98	NA
M5LV-256/120 160 pin PQFP	NA	3.02C	NA	B0/98	NA
M5LV-256/160 208 pin PQFP	NA	3.02C	NA	B0/98	NA
M5-128/68 100 pin PQ/TQ	8.10.16	3.0C	10.85C	A0/97	2.32B
M5-128/104 144 pin PQFP	8.10.16	3.0C	10.85C	A0/97	2.32B
M5-128/120 160 pin PQFP	8.10.16	3.0B	10.85C	A0/97	2.32B
M5-192/68 100 pin PQ/TQ	8.10.16	3.0C	10.84B	A5/97	2.30K
M5-192/104 144 pin PQFP	8.10.16	3.0C	10.84B	A5/97	2.30K
M5-192/120 160 pin PQFP	8.10.16	3.0B	10.84B	C5/96	2.30K
M5-192/160 208 pin PQFP	8.10.16	3.0C	10.84B	C5/06	2.30K
M5-256/68 100 pin PQ/TQ	7.6.13	3.0C	10.84B	A0/97	2.30J
M5-256/104 144 pin PQFP	7.8.1	3.0C	10.84B	A5/97	2.30J
M5-256/120 160 pin PQFP	7.7.21	3.0B	10.84B	A5/97	2.30J
M5-256/160 208 pin PQFP	7.6.13	3	10.84B	C5/96	2.30J
M5-320/120 160 pin PQFP	7.8.1	519	519	A5/97	2.35C
M5-320/160 208 pin PQFP	7.8.1	3.02	10.86H	A5/97	2.35C
M5-320/184 240 pin PQFP	7.8.1	3.02	10.87C	B0/97	2.35C
M5-320/192 256 ball BGA	7.8.1	3.02C	10.86H	B0/97	2.35C
M5-384/120 160 pin PQFP	7.8.1	3.02	10.86H	A5/97	2.35C
M5-384/160 208 pin PQFP	7.8.1	3.02	10.86H	A5/97	2.35C
M5-384/184 240 pin PQFP	7.8.1	3.02C	10.87C	B0/97	2.35C
M5-384/192 256 ball BGA	7.8.1	3.02C	10.86H	B0/97	2.35C
M5-512/120 160 pin PQFP	7.8.1	3.02	10.85E	A5/97	NA
M5-512/160 208 pin PQFP	7.8.1	3.02	10.85E	A0/97	NA
M5-512/184 240 pin PQFP	7.8.1	3.02	10.85E	B0/97	NA
M5-512/192 256 ball BGA	7.8.1	3.02C	10.86H	B0/97	NA
M5-512/256 352 ball BGA	7.8.1	3.02D	10.86H	B0/97	NA

Notes:

1. Entries in this table are minimum required programming algorithm revisions. These revisions or current approved revisions are acceptable.
2. EV=Engineering version, under evaluation
3. NS=Not supported due to hardware limitations or marketing considerations; NA=Contact Vantix or programmer vendors for support information.
4. x=Programming support on the programmer manufacturer's bulletin board is to be used with indicated revision
5. *=Require use of adapter



MACH SOCKET ADAPTERS

The following sockets are available for adapting MACH products for programming through 28-pin DIP sockets on Approved Programmers.

Device	Package	California Integration Coordinators, Inc.	Emulation Technology, Inc.
MACH 110	44-pin PLCC		AS-44-28-01P-300-YAM
MACH 111	44-pin PLCC		AS-44-28-01P-300-YAM
	44-pin TQFP	CIC-44TQ-28D-B6-ENP CIC-44TQ-28D-A6-BNP	AS-44-28-01TQ-6ENP-SP AS-44-28-01TQ-600-ENP
MACH 111SP	44-pin PLCC		AS-44-28-01P-300-YAM
	44-pin TQFP	CIC-44TQ-28D-B6-ENP	AS-44-28-01TQ-6ENP-SP
MACH 120	68-pin PLCC	CIC-68PL-28D-A6-YAM	AS-68-28-05P-300-YAM
MACH 130	84-pin PLCC	CIC-84PL-28D-A6-YAM	AS-84-28-04P-600-YAM
MACH 131	84-pin PLCC	CIC-84PL-28D-A6-YAM	AS-84-28-04P-600-YAM
MACH 131/1	84-pin PLCC	CIC-84PL-28D-A6-YAM	AS-84-28-04P-600-YAM
MACH 131SP	100-pin PQFP	CIC-100QF-28D-A6-YAM	AS-100-28-03Q-600
	100-pin TQFP	CIC-100TQ-28D-B6-YAM	
MACH 210	44-pin PLCC		AS-44-28-01P-300-YAM
	44-pin TQFP	CIC-44TQ-28D-B6-ENP CIC-44TQ-28D-A6-BNP	AS-44-28-01TQ-6ENP-SP AS-44-28-01TQ-600-ENP
MACH 211	44-pin PLCC		AS-44-28-01P-300-YAM
	44-pin TQFP	CIC-44TQ-28D-B6-ENP CIC-44TQ-28D-A6-BNP	AS-44-28-01TQ-6ENP-SP AS-44-28-01TQ-600-ENP
MACH 211SP	44-pin PLCC		AS-44-28-01P-300-YAM
	44-pin TQFP	CIC-44TQ-28D-B6-ENP	AS-44-28-01TQ-6ENP-SP
MACH 215	44-pin PLCC		AS-44-28-01P-300-YAM
MACH 220	68-pin PLCC	CIC-68PL-28D-A6-YAM	AS-68-28-05P-300-YAM
MACH 221	68-pin PLCC	CIC-68PL-28D-A6-YAM	AS-68-28-05P-300-YAM
MACH 221SP	100-pin PQFP	CIC-100QF-28D-A6-YAM	AS-100-28-03Q-600
MACH 230	84-pin PLCC	CIC-84PL-28D-A6-YAM	AS-84-28-04P-600-YAM
MACH 231	84-pin PLCC	CIC-84PL-28D-A6-YAM	AS-84-28-04P-600-YAM
MACH 231/1	84-pin PLCC	CIC-84PL-28D-A6-YAM	AS-84-28-04P-600-YAM
MACH 231SP	100-pin PQFP	CIC-100QF-28D-A6-YAM	AS-100-28-03Q-600
	100-pin TQFP	CIC-100TQ-28D-B6-YAM	
MACH 355 or M4-96/96	144-pin PQFP		AS-144-28-01Q-600
MACH 435	84-pin PLCC	CIC-84PL-28D-A6-YAM	AS-84-28-04P-600-YAM
MACH 436 or M4-128N/64	84-pin PLCC	CIC-84PL-28D-A6-YAM	AS-84-28-04P-600-YAM
MACH 445	100-pin PQFP	CIC-100QF-28D-A6-YAM	AS-100-28-03Q-600
MACH 446 or M4-128/64	100-pin PQFP	CIC-100QF-28D-A6-YAM	AS-100-28-03Q-600
MACH 446 or M4-128/64	100-pin TQFP	CIC-100TQ-28D-E6-YAM	
MACH 466 or M4-256/128	208-pin PQFP	CIC-208PQ-28D-B6-YAM	AS-208-28-02Q-6
M4-256/128	256-ball BGA	CIC-256BGA-28D-B6-PLA	



Device	Package	California Integration Coordinators, Inc.	Emulation Technology, Inc.
M4-32/32 or M4-64/32	44-pin TQFP	CIC-44TQ-28D-C6-ENP	
	48-pin TQFP	CIC-48TQ-28D-A6-YAM	
	44-pin PLCC		AS-44-28-01P-3-YAM
M4-96/48	100-pin TQFP	CIC-100TQ-28D-E6-YAM	
M4-192/96	144-pin TQFP	CIC-144TQ-28D-B6-YAM	
MACH5-128	160-pin PQFP	CIC-160QF-28D-A6-YAM	AS-160-28-02Q-600
	144-pin PQFP	CIC-144QF-28D-A6-YAM	
	100-pin PQFP	CIC-100QF-28D-C6-YAM	
	100-pin TQFP	CIC-100TQ-28D-D6-YAM Rev. 2	
MACH5-192	208-pin PQFP	CIC-208QF-28D-A6-YAM	AS-208-28-04Q-6YAM
	240-pin PQFP	CIC-240QF-28D-A6-YAM	
	160-pin PQFP	CIC-160QF-28D-A6-YAM	AS-160-28-02Q-600
	144-pin PQFP	CIC-144QF-28D-A6-YAM	
	100-pin PQFP	CIC-100QF-28D-C6-YAM	
	100-pin TQFP	CIC-100TQ-28D-D6-YAM Rev. 2	
MACH5-256	208-pin PQFP	CIC-208QF-28D-A6-YAM	AS-208-28-04Q-6YAM
	240-pin PQFP	CIC-240QF-28D-A6-YAM	
	160-pin PQFP	CIC-160QF-28D-A6-YAM	AS-160-28-02Q-600
	144-pin PQFP	CIC-144QF-28D-A6-YAM	
	100-pin PQFP	CIC-100QF-28D-C6-YAM	
	100-pin TQFP	CIC-100TQ-28D-D6-YAM Rev. 2	
MACH5-320	208-pin PQFP	CIC-208QF-28D-A6-YAM	AS-208-28-04Q-6YAM
	240-pin PQFP	CIC-240QF-28D-A6-YAM	
	160-pin PQFP	CIC-160QF-28D-A6-YAM	AS-160-28-02Q-600
	256-pin BGA	CIC-256SBGA-28D-A6-PLA	
MACH5-384	208-pin PQFP	CIC-208QF-28D-A6-YAM	AS-208-28-04Q-6YAM
	240-pin PQFP	CIC-240QF-28D-A6-YAM	
	160-pin PQFP	CIC-160QF-28D-A6-YAM	AS-160-28-02Q-600
	256-pin BGA	CIC-256SBGA-28D-A6-PLA	
MACH5-512	208-pin PQFP	CIC-208QF-28D-A6-YAM	AS-208-28-04Q-6YAM
	240-pin PQFP	CIC-240QF-28D-A6-YAM	
	160-pin PQFP	CIC-160QF-28D-A6-YAM	AS-160-28-02Q-600
	256-pin BGA	CIC-256SBGA-28D-A6-PLA	
	352-pin BGA	CIC-352SBGA-28D-A6-PLA	

Contacts:

California Integration Coordinators, Inc. 656 Main Street Placerville, CA 95667 (916) 626-6168 Tel. (916) 626-7740 Fax.	Emulation Technology, Inc. World Headquarters 2344 Walsh Avenue, Building F Santa Clara, CA 95051-1301 U.S.A. (408) 982-0660 Tel. (408) 982-0664 Fax
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General Information



PAL DEVICE PROGRAMMING UPDATE

Device	Data I/O Autosite	Data I/O Unisite	Data I/O 2900	Data I/O 3900	BP Micro 1128	BP Micro 1200/1400
PALCE16V8Z-XX	1.5	3.6	1.9	1.3	1.86	2.05
PALCE16V8H/Q-XX/4/5	1.5	3.4	1.6	1.3	1.55	2.15
PALLV16V8-XX	2.1	4.4	3.2	2.2	2.25C	2.25C
PALLV16V8Z-XX	2.1	4.4	3.2	2.2	2.25C	2.25C
PALCE20V8H/Q-XX/4/5	2.5	4.7	3.5	2.5	2.19	2.05
PALCE22V10H/Q-XX/4/5	2.5	4.7	3.5	2.5	3.0	3.0
PALCE22V10Z	2.5	4.7	3.5	2.5	3.0	3.0
PALLV22V10Z-XX/5	2.5	4.7	3.5	2.5	2.25C	2.25C
PALLV22V10	2.5	4.7	3.5	2.5	2.33	2.33
PALCE20RA10H-XX	2.3	4.9	3.3	2.7	1.55	3.01
PALCE24V10	2.1	3.4	1.5	1.3	1.55	2.05
PALCE26V12-XX/4	2.7	4.9	1.9	2.7	1.79	1.68B
PALCE29M16/4	2.1	3.4	1.5	1.3	1.61	2.15
PALCE29MA16/4	2.1	3.4	1.5	1.3	1.61	2.15
PALCE610H-XX	2.3	4.5	3.3	2.3	2.19	2.21C
PALCE16V8Z-XX	10.75A	2.2	3.54a	10.36	3/92	1.68B
PALCE16V8H/Q-XX/4/5	10.75A	2.1	3.54a	10.1	3.4	1.5
PALLV16V8-XX	10.75A	2.6	3.54a	10.75A	B/94	2.2
PALLV16V8Z-XX	10.75A	2.4	3.54a	10.75A	B/94	2.2
PALCE20V8H/Q-XX/4/5	10.75A	2.1	3.54a	10.1	1/93	1.5
PALCE22V10H/Q-XX/4/5	10.75A	2.2	3.54a	10.1	3/92	1.68B
PALCE22V10Z	10.75A	2.2	3.54a	10.1	3/92	1.5
PALLV22V10Z-XX/5	10.75A	2.4	3.54a	10.75A	B/92	2.2
PALLV22V10	10.77	2.4	3.54a	10.77	A/92	2.2
PALCE20RA10H-XX	10.75A	2.1	3.54a	10.21	3.5	1.5
PALCE24V10	10.75A	2.2	3.35	10.21	3.4	1.68B
PALCE26V12-XX/4	10.75A	2.2	3.35	10.39	3.5	1.68B
PALCE29M16/4	10.75A	2.2	3.54a	10.61	3.5	1.5
PALCE29MA16/4	10.75A	2.2	3.54a	10.61	A/95	1.5
PALCE610H-XX	10.75A	2.1	3.54a	10.75A	3.4	1.68G

Notes:

1. Entries in this table are minimum required programming algorithm revisions. These revisions or current approved revisions are acceptable.
2. PAL is a registered trademark of Vantis Corp.



SELF QUAL VENDORS

Advantech Equipment Corp. (Taiwan)	B & C Microsystems, Inc.	Elan Digital Systems, Ltd.
7Fl, No 98, Ming Chuan Road Shin-Tien City, Taipei Taiwan Tel 011 886-2-2218-2325	846 Del Rey Avenue Sunnyvale, CA 94086 USA Tel (408) 730-5511	Elan House, Little Park Farm Road Sagensworth West, Farenham, Hants, PO15 5SJ UK
Electronic Engineering Tools	ICE Technology Ltd.	Leap Electronic Co. Ltd.
544 Weddell Drive, Suite 6 Sunnyvale, CA 94089 USA Tel (408) 734-8184	Unit 4, Penistone Court, Station Buildings Penistone, S.York S30 6HG UK Tel 011-44 (0) 1226-767404	6th Fl-4, No. 4, Lane 609 Chunghsin Road, Sec.5 Sangchung, Taipei Hsien Taiwan Tel 011 (886) 2-999-1860 x37
Logical Devices	MICROPROSS	Minato Electronics, Inc. (USA)
1221 South Clarkson Suite 200 Denver, CO 80202 USA Tel (303) 722-6868 x215	33, Rue Gantois 5900 Lille France Tel 33-03-20-74-6630	3628 Madison Ave., Suite 5 North Highlands, CA 95660 USA Tel (916) 348-6066
MQP Electronics Ltd.	Owen Electronic GmbH	Phyton, Inc.
Unit 2 Park Road Centre Makmesbury, Wilts SN16 OBX UK Tel 011-0-1666-825-66	Fritz-Wunderlich-Strasse 51 Postfach 1104, D-6798 Kusel, Germany Tel 011-06381-4202-0	7206 Bay Parkway, 2nd Floor Brooklyn, NY 11204 USA Tel (718) 259-3191
Sunrise Electronics, Inc.	Xeltek	
675 Brea Canyon Road, Unit #6 Walnut, CA 91789 USA Tel (909) 595-7774	3444 De La Cruz Blvd. Santa Clara, CA 95054 USA Tel (408) 588-9942	

