M. Martin

abel™

MARKETING PLAN

WORLDWIDE VERSION (FINAL)

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Green comments by Bjorn

ABEL™ MARKETING PLAN

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I. INTRODUCTION

A. ABEL™ - Advanced Boolean Expression Language

ABEL™ is an advanced "second generation" language for the development of programmable logic. It compiles fuse maps for IFL and PAL logic and PROMs devices from a source file. The source file contains a design description using Boolean equations, truth tables, state diagrams or a combination thereof. A single source file may be used to generate fuse maps for various logic devices. A logic simulator is included to debug the design description.

Primary features of ABEL™ are:

1. Support of truth table entry and state machine entry as well as Boolean equations.
2. Support of both PALs PROMs and IFLs using a common syntax.
3. Logical, arithmetic and relational operators are fully supported.
4. High-level ability to specify functional test vectors.
5. Multiple devices can be designed with one source file.
6. Set notation can be used to group related pins together and operate on them as a unit.
7. Free format syntax (no line or column number dependencies).
8. Sophisticated logic reduction using the PRESTO algorithm.
9. Standard JEDEC file created for downloading the fuse map to a logic programmer.
10. Industry-standard documentation output.
11. Available initially for the VAX and the IBM PC.

ABEL™ is written entirely in the C programming language for code efficiency and portability. C is rapidly becoming one of the most well-supported programming languages, ensuring that ABEL™ can be easily transported to most popular machines and operating systems.

Here is the worldwide release schedule:

U.S.	February 15
Europe	March 15
Japan	March 15
R.O.W.	3rd quarter

Product shipments are scheduled to begin April 2, 1984

B. Features/Benefits

Features	Benefits
1. Truth table entry / Boolean entry.	1. Use the most natural method to specify a design (some designs are more suited to one method or the other).
2. State machine notation: ABEL™ is the only logic design language to support a high-level state machine syntax for registered (sequential) devices.	2. New, powerful method to design sequential logic - the only natural state machine language available.
3. Support both PAL & IFL using common input syntax. and PROMs	3. No longer any need for separate tools for different logic device families. Eliminates PALASM and H&L.

4. Logical, arithmetic, relational operators.	4. Using operations such as =, ≥, ≤, =, etc. adds great flexibility to Boolean equations.
5. High-level test vector generation.	5. ABEL™ enhances testability by making test vectors easy to generate.
6. Multiple devices designed with one source file.	6. An entire design can be contained in a single file.
7. Set notation.	7. Sets are a powerful shorthand notation to streamline byte-, word-, or bus-oriented designs.
8. Free-format syntax.	8. No more PALASM-like rigid input formats (i.e., pin list on line five, etc.).
9. Sophisticated PRESTO logic reduction.	9. ABEL™ will generate a near-minimum set of equations which are translated to a near-minimal fuse map. ABEL™ attempts to squeeze a design into the smallest logic device.
10. Standard JEDEC output file (programmer load file).	10. Compatibility with popular logic programmers (especially Data I/O).
11. Standard documentation output.	11. Users can document their designs with industry-standard chip diagrams and other descriptions.
12. First release for VAX (VMS and UNIX) and IBM-PC	12. Support for a large user base.

Good!

not quite true

[also standard PROM formats]

II. OBJECTIVES

A. Short-term

1. Sell approximately 2000 units of ABEL™ during its first year.
2. Create an installed base into which updates and service contracts can be sold.
3. Draw a large number of new users to programmable logic, and draw logic programmer sales with them.

B. Long-term

1. Place the ABEL™ series of CAD tools as the industry-standard programmable logic CAD environment, and Data I/O as the industry leader in programmable logic tools.

III. CUSTOMER PROFILE

ABEL™'s target customers are hardware design engineers who are currently using programmable logic or who plan to use programmable logic. Those engineers planning to use programmable logic could be currently using standard fixed-function catalog logic (TTL, CMOS, etc.). They could also be designing a prototype using programmable logic, then converting this design to a semicustom or custom gate array.

A. Classification by Industry

Following is a list of the industries most heavily using programmable logic:

1. EDP (computers)
2. Computer peripherals
3. Telecommunications
4. Instrumentation

A recent study by EDN indicates tht the highest growth markets for semicustom ICs (of which programmable logic is a subset) are:

1. Test & measurement (+250%/4 yr.)
2. Industrial controls (+209%/4 yr.)
3. Medical electronics (+133%/4 yr.)
4. Computer peripherals (+118%/4 yr.)

B. Classification by Job Function

The following job functions will either recommend ABEL™ or make the buy decisions:

1. Engineer (Chief, Principal, Project, Senior, Systems, Design)
2. Engineering Manager (also Group Leader, Department Head, Technical Director, VP of Engineering)

At a price of under $1000 (PC version), the following people will generally have to approve the ABEL™ purchase:

1. Engineering Manager (see above)

For the VAX version's price (approximately $2500), the following additional approvals may be necessary:

1. Engineering Director
2. VP of Engineering

IV. DISTRIBUTION

A. Demos

A Demo Disk will be written by engineering and approved by marketing. This Demo Disk will be a tutorial for the customer which enables him to examine several logic designs implemented by ABEL™ without a salesman being present. This is necessary due to the cost of a sales call versus the selling price of this product.

This demo disk will be made available to all salesmen, FAE's, and reps. But, for the mainstream of customers this disk will be purchased from the factory at a cost of $10 per copy. All offices, domestic and international, are free to make and distribute their own copies. Accounting for this purchase will be structured the same way the accounting for the "Implementation Guide", with proceeds used to defray the costs of production and handling.

Additionally, the Demo Disk will include price, ordering information, and the phone numbers for Redmond, domestic sales offices and international sales offices, so questions can be answered quickly.

The result of a customer using the demo disk should be at a minumum the desire to phone with a question. Ideally the result will be the placement of an order.

There will be no equivalent Demo Disk for the VAX. Due to the higher price of the VAX ABEL™, a salesperson could afford to carry the PC version of ABEL™ with a portable PC to demo the actual product.

B. Training

Domestic sales force training will take place in February over a one week period. Training will be a joint venture between engineering and marketing to include both in-depth product technical training as well as the market, demo techniques, and sales tools. Pat Turkatte and Mike Mraz will cover the U.S. and Canada.

European training will occur in March and be covered by Mike Mraz. During this training, a number of logic seminars may also be scheduled in several countries. Training schedule will be developed by Mike and Ray Neubauer.

ROW training will occur in Q3 and be covered by the to-be-hired FAE. Bruce Robbins will coordinate.

Training for Data I/O Japan will begin with a trip to the U.S. by a technical person from that subsidiary. This will take place in late February. Further training and seminars may be held in Japan in September.

C. Sales Process

Initial customer contact will be through direct mail and advertisements which will result in the customer requesting either brochure or the $10 Demo Disk. Two weeks following shipment of the Demo Disk, a follow-up phone call to further work/qualify the lead will occur. This qualification will be done by a secretary/clerical person in the Tactical Marketing group. Even though all inquiries will generate leads to the field in the standard manner, the price of this product dictates that the major sales effort come from the factory. This phone call will generate either an order which will be taken by the person calling and/or a lead qualification sheet dictating what further action is necessary.

These actions would be:

1. Nothing
2. Wait and call back.
3. Have a sales support specialist call to answer questions which are too technical for a salesperson to answer.
4. Have a salesman call to discuss further business.

Note that option number one is the only method for dropping out of the loop. Once orders are taken, support will be provided by the FAE's and the factory. In summary the process is:

1. Direct mail/ads
2. $10 Demo Disk
3. Customer performs demo
4. Follow-up call
5. Order/shipment
6. Support

To support in-office demos and seminars, as well as customer demos, portable IBM-PC-compatible computers will be required at each regional office.

D. OEM Licensing

ABEL™ is a natural fit into CAD workstations and development systems. Tactical Marketing and ABEL™ product manager will develop a plan to contact leading workstation and development system manufacturers. These companies will be sold on the fact that their systems are not complete without a programmable logic development tool. OEM licensing agreements will be negotiated on a case-by-case basis. A sample agreement will be generated by Jim Dooley and Mike Mraz with assistance from Jahnis Abelite by January 31, 1984.

WORKSTATIONS	DEV. SYSTEMS
Mentor	Intel
Metheus	Motorola
Daisy	Tektronix
Valid	others TBD
FutureNet	
others TBD	

European development system manufacturers (i.e., Philips) will be contacted by Ray Neubauer. Japanese development system manufacturers will be the responsibility of Takao Yamashita.

E. Special Distribution in Europe

European representatives will be given the option of duplicating ABEL diskettes at their facilities. The reps that opt to do their own duplication will buy the documentation package (manual, box, diskette sleeve) from Data I/O at standard ABEL transfer price, then receive the master ABEL distribution diskette. This diskette will contain an accounting program to tally the number of copies made. The accounting information will be written to a separate diskette which will be returned to Data I/O on a quarterly basis for verification against stocking order quantity.

Reps who duplicate ABEL will also be responsible for suplicating all bug fixes and updates. This special program will give the reps instant turnaround on new program versions and updates, an extremely valuable service to the customer.

This program will be implemented in parallel with the Series 22 custom option program, and will be coordinated through Fred Jones and Ray Neubauer.

V. PROMOTION

ABEL™ promotion will be aimed at two prospect types: Data I/O installed base and new programmable logic users.

The promotional and training pieces required to support the ABEL™ release are:

1.	Large ad (1/2-page island, color)	2/15/84
2.	Small ad (1/4-page, B&W)	2/15/84
3.	Spec. sheet (brochure) - color 2-page	2/22/84
4.	ABEL™ demo disk and instruction sheet/reply card	2/22/84
5.	Direct mail piece and reply card	2/15/84
6.	ABEL™ sales manual	3/1/84
7.	ABEL™ slide show plus script	3/15/84
8.	ABEL™ articles for trade publications	2/10-5/10/84
9.	Four (minimum) applications notes	2/22-8/30/84
10.	ABEL™ subscriber service information	4/1/84

Also, Marketing Communications will develop a special ABEL™ logo to be used in all ABEL™ materials (manual, ads, etc.).

Other Miscellaneous items are:

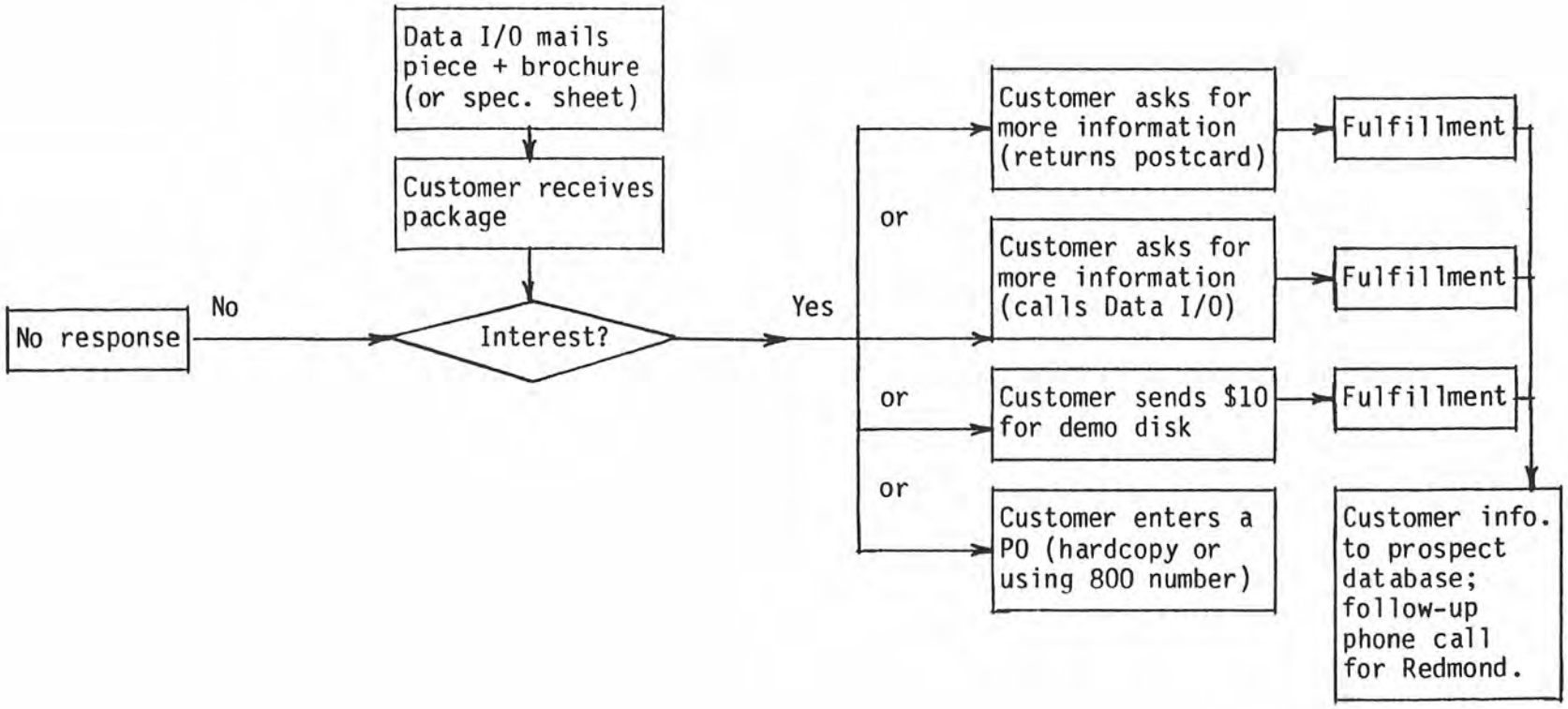
1.	Shipping container	4/1/84
2.	Warranty card/customer information card	4/1/84

A. Promotional Strategy - Installed Base

Direct mail will be used to inform the installed PLDS base of ABEL™ availability. This mailer will be scheduled for February 15. The piece should stress the key features of ABEL™ and its compatibility with existing Data I/O programmers.

This direct mail piece will also be sent to all of the existing "Logic Guide" leads. By mid-February there should be approximately 10,000 of these leads on the prospect database.

Following is a short flow diagram of the direct mail program.


Data I/O mails piece + brochure (or spec. sheet)
Customer receives package
Interest?
No
No response
Yes
or
or
or
Customer asks for more information (returns postcard)
Customer asks for more information (calls Data I/O)
Customer sends $10 for demo disk
Customer enters a PO (hardcopy or using 800 number)
Fulfillment
Fulfillment
Fulfillment
Customer info. to prospect database; follow-up phone call for Redmond.

Fulfillment for this mailer shall be:

Customer asks for more info.: (returns card)	1. spec. sheet + app. notes 2. demo disk offer (written)
Customer asks for more info.: (calls 800#)	1. spec. sheet + app. notes 2. demo disk offer (oral + written) 3. ask for purchase order
Custom sends $10 for demo disk:	1. demo disk package 2. spec. sheet + app. notes
Customers enters a P.O.	1. written-to field sales coordinators 2. oral - 800# to field or to Redmond

Existing users of the PLDS will represent the largest ABEL™ customer base and will be most easily accessible. Therefore, telephone follow-up on the responses is crucial, and this follow-up should be done from Redmond, by clerical person in Tactical Marketing.

B. Promotion Strategy - Add-On Sales to Programmers

All logic programmer advertisements shall contain ABEL™ information after 2/15/84. At a minimum, this shall be:

1. Top 3 features (input syntax, universal device support, Data I/O support).
2. Computer/op.sys. availability.
3. Demo disk offer.

Of course, whenever a field sales person receives a programmable logic lead, ABEL™ promotional material should be part of the sales person's fulfillment package.

Also, an ABEL™ demo should occur with every demo of a logic programmer. Ideally, this demo should use a portable PC-compatible computer and the actual ABEL™ product. Should this prove impossible, the sales person should leave an ABEL™ Demo Disk with the customer (no $10 charge) and strongly urge the customer to examine the demo.

Our sales goal must be "ABEL™ with every logic programmer".

C. Promotion - New Programmable Logic Users

New users will represent most of the ABEL™ sales volume after its first year. These prospects will be generated either by ABEL™ advertising or by programmer advertising.

ABEL™ advertising should stress the following key points:

1. This is a truly new, revolutionary logic design aid which is cheap enough to be accessible to every engineer.
2. ABEL™'s high-level features will make both design and testing faster, more efficient, less error-prone.
3. ABEL™ is the product of an established instrument company and will receive the same high degree of support that our customers expect.

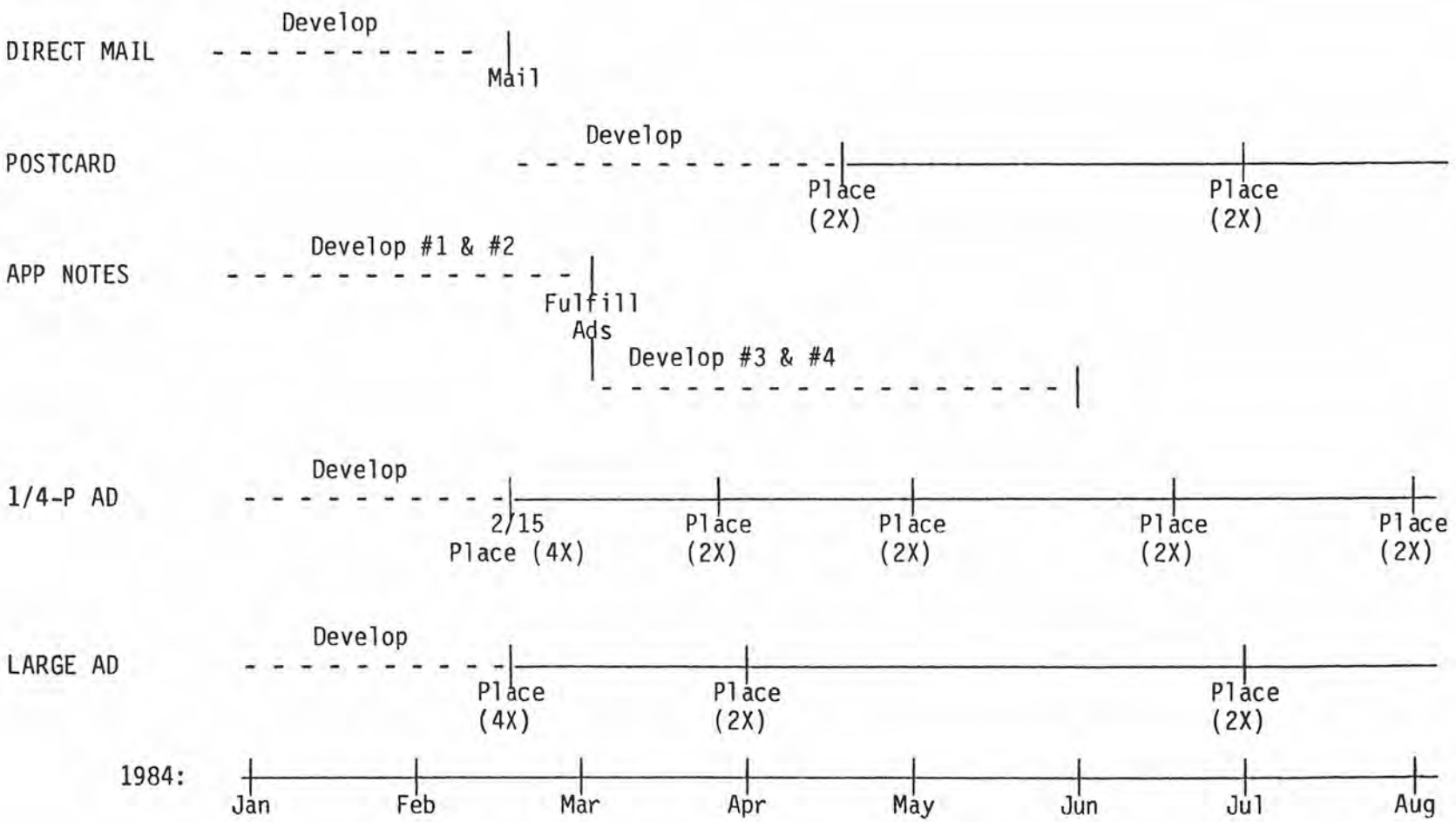
D. IC Manufacturer Co-op

All of the programmable logic IC manufacturers will be contacted to explore cooperative promotion of ABEL™. The simplest Co-op program would be a piggyback of the ABEL™ spec sheet with a manufacturer's ad fulfillment. Other programs could include special discounts, joint seminars, etc.

The manufacturers need to be sold on the fact that ABEL™ is the new standard for logic design, and they should rally behind it. There may be some NIH (not-invented-here) mentality, though, because all of the manufacturers have their own device-specifc CAD tools (see section VI).

Semiconductor co-op in Japan and Europe will be coordinated by the appropriate person in each sales region.

E. Preliminary Media Plan



Notes to media plan:

1. Marketing Communications and Sharp-Hartwig to consult and advise as soon as possible. Final media schedule required by 1/15 to support placements in February.

2. Large ad - high visibility, minimum space cost, recommend 1/2-page island, 2-color or 4-color. Must carry reader service number and a small cut-out coupon for Demo Disk. Fulfillment - app note, spec. sheet, Demo Disk offer.

Comparative costs:	ED	EDN	Electronics
full-page (B&W)	4510	3950	4115
1/2-page island (B&W)	2790	2650	2370

3. 1/4-page ad - small attention-getter (i.e., offering free app notes) to be placed in both traditional journals (ED, EDN, etc.) and journals such as:

   PC

   Byte

   VLSI Design

   Computer Design

   Fulfillment - same as large ad.

4. App notes - first two app notes should highlight a state machine design and high-level test vector generation. Following notes should use actual examples from customers if possible. These app notes are critical-they are the basis of offering FREE literature in the low-cost advertising (1/4-page and postcards). Aggie should assign a writer by 1/4/84 to support this effort.

5. Direct mail - see section V.A.

VI. PRICING

ABEL™ price should reflect these two strategies:

1. ABEL™ is the most advanced, best supported, and highest quality software package for programmable logic CAD, and therefore should command a price premium.

2. ABEL™ will sell programmers. ABEL™ will also form the base for follow-on revenue from update contracts and enhancements. This means that ABEL™ should be priced low enough to generate interest in programmable logic design.

For more details on the ABEL™ competitive situation see competitive analysis section VIII. For puroses of price analysis, dividing all available programmable logic CAD software into two classes is useful. These classes are:

1. device- or manufacturer-specific tools
2. universal tools

The following table shows tools and list prices for their IBM-PC versions.

Device-Specific			Universal	
PALASM (MMI)	$195	(PAL ONLY)	ABEL™	_____
AMAZE (Signetics)	$?	(IFL ONLY)	CUPL	$750
PLAN (National)	$195	(PAL ONLY)	(see VIII.A)	(VAX = $2250)
PLPL (AMD)	$?	(PAL ONLY)		
HELP	(not available)	(HARRIS HPL TIMESHARE)		
PALASM (PLDS)	$395	(PAL ONLY)		
H&L (PLDS)	$395	(IFL ONLY)		

The device-specific tools are sold by the semiconductor manufacturers only as part of their I.C. marketing strategy; these tools are not treated as a product in their own right. The only exceptions are the PLDS PALASM and H&L adapters. Universal tools will eventually replace device-specific tools in most logic CAD applications.

The following domestic and international list prices are recommended (in $U.S.):

ABEL™ - IBM-PC, MS-DOS, 5 1/4" DSDD, purchased alone, $895

ABEL™ - same as above, purchased as part of TOTALPak 4, $795 ($100 discount)

ABEL™ - VAX, VMS, 8" DSDD or 800/1600 B.P.I. mag tape, $2495

ABEL™ - same as above, purchased as part of TOTALPak 4, $2295 ($200 discount)

Note: Domestic and international list prices are equal.

A high-quantity-deep-discount schedule may be useful to discourage software pirating. A recommendation will be made by January 16, 1984.

VII. WARRANTY, SERVICE, AND UPDATES

A. Warranty Policy

A warranty period of 90 days shall exist for the product upon delivery to the customer, except where local laws require a longer warranty. Warranty repair will be accomplished by mailing a replacement disk from the Redmond facility. A customer will be able to return the product to any Data I/O facility but it will then in turn be shipped to Redmond.

A warranty failure shall be defined as:

1. If ABEL™ does not load.
2. Loads but does not execute.

No warranty repair shall be done unless customer has returned a warranty card to Data I/O.

Upon completion of the 90 day warranty period, customers may then extend their warranty coverage by purchasing our "Subscriber Service".

The Subscriber Service provides:

1. Automatic notification of bugs,
2. Free updates to fix bugs,
3. Free minor enhancements,
4. Discounted major enhancements.

Further details will be developed by Tactical Marketing.

B. Update Policy

For the first year of the product, updates (whether in or out of warranty) will be delivered by mail to the customer. In the event an out-of-warranty failure occurs and the customer is not in our subscriber service, an update may be puchased at a price determined at the time of sales release of the update.

C. Applications Requirements

Being principally an instrument house, Data I/O customers are used to, and expect applications support. For this reason, applications support will be required for this product. The first line of defense will be the FAE's domestically, Ian Harry in Europe, one of Japan's technical support people for Japan, and for ROW an FAE to be hired. When this is not sufficient, the applications group in Redmond will field the questions.

VIII. COMPETITIVE ANALYSIS

A. CUPL

As discussed in section VI, programmable logic CAD tools can be divided into "device-specific" and "universal". The only universal tools available today are ABEL™ and CUPL.

CUPL's strong points are:

- o shipping today
- o many devices supported
- o high-level syntax and operators
- o built-in editor
- o PC, VAX, CPM-80, 86 supported
- o sold by other programmer manufacturers

CUPL's weak points are:

- o unknown company - Assisted Technology
- o no installed base of logic users
- o weak promotion and marketing
- o some bugs from beta version not fixed (crashes)
- o crude, first-generation simulator
- o questionable applications support
- o no state machine design language
- o no truth table design syntax
- o several popular devices (e.g., 82S105) not supported

CUPL sells for $750 on the IBM-PC. Assisted Technology is currently running an ad in EE Times and offering a $100 discount. They are claiming support for "all" logic devices but in fact do not support several FPLSs which ABEL™ does.

CUPL's installed base is 30 units (as of WESCON '83). They should generate several dozen sales as a result of their advertising campaign. Should CUPL prove to be a troublesome competitor, a sales incentive program could be created to reduce CUPL's effectiveness.

B. Impact On PALASM/H&L Design Adapters (303A-100, 101)

ABEL™ will eventually replace device-specific tools, hence, these adapters should experience a drastic decline in sales over the first year of ABEL™. The adapters should be allowed to decline for 6 to 12 months, then removed from the product line.

Ad platform concept	Mraz/S-H*	1/13/84
Product release	Mraz/Dooley	2/1/84 (published)
Warranty card	Mraz/Dooley/Primavera	3/1/84
License terms & conditions	Mraz/Abelite	1/16/84
App note #1	Dooley/?	2/22/84 (published)
Sales manual	Mraz/Dooley	3/1/84 (published)
Training plan	Mraz/Dooley	1/13/84
Demo Disk instruction sheet	Mraz/Primavera	2/22/84
Final media plan	Mraz/Primavera/S-H	1/15/84
Account for Demo Disk	Mraz/Powell	1/31/84
Spec sheet (brochure)	Mraz/Primavera	2/22/84
OEM plan	Mraz/Dooley	1/31/84
Large ad	Mraz/Primavera/S-H	2/15/84 (produced)
Small ad	Mraz/Primavera/S-H	2/15/84 (produced)
Direct mail program	Mraz/Primavera/S-H	2/15/84 (produced)
ABEL™ slide show	Mraz/Dooley/Primavera	3/15/84
ABEL™ article #1	Mraz/Good	2/10/84
ABEL™ subscriber service	Mraz/Dooley	3/2/84 (plan) 4/2/84 (implementation)
IC manufacturer coop plan	Mraz/Witten	3/2/84
Direct response cards (postcards)	Mraz/Primavera	4/13/84

*S-H = Sharp-Hartwig