elan digital systems ltd

programming development & production aids

ELAN UPDATE JUNE/JULY 1984   **PRIVATE AND CONFIDENTIAL**

elan

INCENTIVE PROGRAM

The **WINNER** of the **FIRST ELAN INCENTIVE PROGRAM** prize is
Kate Mann of Swift Sasco.

Congratulations!

Kate was given a choice between a weekend in Paris or Amsterdam.
She chose Paris and has asked her sister to accompany her - all
expenses paid. We wish them a most enjoyable weekend.

They fly from Gatwick to Paris on a Friday evening, stay 2 nights
at the 5 Star Hotel Inter Continental on the Rue de Rivoli, and
return on Sunday evening. It will be a well deserved time to
relax and enjoy the fruits of her efforts.

This first quarterly prize turned out to be a close run
competition. It means that there are many salespeople in with a
chance for not only the next quarterly prize (June, July, August
shipments) but the Grand Annual Prize. And that will be even
more very exciting.

Kate's comments were "Since the Elan products sell themselves I'm
going all out to find more opportunities to demonstrate them".

ANNUAL SHUTDOWN

Please don't forget that we will be shut down for 1 week
commencing Monday, 28 July.

1

SALES & MARKETING

CUSTOMER COMMENTS

A small but highly respected maker of medical electronics had built their own 8748 programmer. Even though they have very advanced in-house design capabilities, they experienced a number of difficulties. These included intermittent functioning with Intel products, and no success with NEC product. After an E2A and E4 were successfully demonstrated, including up/down loading to their Superbrain Micro/MDS, their Technical Director said "I've not had such a good demonstration in years. Everything worked first time. I'm quite amazed". they placed their order instantly.

An E2A & E11 (32K) demonstration - more lessons learned from success. A well known manufacturer of microprocessor based controllers has a continuous requirement to customize his standard product range. This involves changing data on the equipment's l.e.d. matrix display. To create the change their procedure is: scan the program listing; identify the required code; change the code; link the new program on his MDS; dump this to an EPROM programmer; blow an EPROM (27256); and then try that EPROM in their controller. Usually this takes about 45 minutes, and often it doesn't work the first time. At the demonstration their existing 27256 was loaded into the E2A RAM; the byte string 'find' mode was used to locate the required code; the code was changed at that address; the new data was loaded into the E11 RAM; the E11 was put into 'simulation' connected to the target controller to run and test the new program; a new EPROM was programmed; this was plugged into the target system which then operated as required. Total time taken, including programming the EPROM, was 3.5 minutes. The customer saved 41.5 minutes plus eliminating any repeat trials he might have had to do before. Multiply the labour saving costs by the number of times he runs through this process each week and the E2A and E11 is justified in a matter of months. To this savings was added the benefits of releasing their expensive MDS to other programming tasks.. In addition, the customer required his 27256 to have an access time of 250 nSec which was readily accomodated by the E11 175 nSec typical access speed. But he then checked the 27256 access time on the E2A sorting routine and qualified it at 150 nSec which gave him the additional margin for confident results.

THE LESSONS:

1. Know all our product features and how to demonstrate them.

2. Know our competitive advantages: no other EPROM simulator is
   faster than 350 nSec; the newest competitive simulators
   are in modules which require the removal of the EPROM pro-
   gramming module first before the simulator can be used; our
   E2A access time testing not only gives confidence in results
   but can also save the customer money by selecting lower speed
   less costly devices for higher speed tasks..

3. Look for more companies with similar requirements: all of you
   also sell EPROMs, so make sure all your EPROM customers have
   an opportunity to see an Elan programmer demonstrated. All
   manufacturers of industrial controllers and most computer
   peripheral companies are ideal sales targets.

MARKETING SUPPORT

As part of our continuing effort to improve and expand our
product and marketing suport we have formed a new Marketing Group
who will, amongst other things, have the responsibility of coor-
dinating all in-house functions to support our distributors.

Claire Lacey is now our Sales and Marketing Assistant and she is
eager to respond to all your queries and requests. She will make
sure that your orders are processed correctly, documentation
prepared properly, information and literature is sent quickly,
problems sorted out satisfactorily, and help is given whenever
needed. You will still have direct access to our technical staff
but if Claire knows that you need some questions answered she
will make sure that someone is available as quickly as possible.

INTEL APPROVAL

Our E9A is officially qualified by Intel, including the 27512.
In fact we have been advised by Intel that the E9A is the first
independent (other than Intel) programmer IN THE WORLD to receive
27512 qualification.   Not even Data I/O received approval before
us.   Our E2A and E8A, as subsets of the E9A, will also be placed
on the approvals list.   Intel's official list will also include
the same machines sold in the USA but under the name of
Electronic Systems Products ESP E9A, E2A and E8A.

The Intel laboratory at Swinden have now locked their Data I/O
121A away in a cupboard and use our E9A instead for all their own
requirements.

FCC CERTIFICATION (and VDE Testing)

Our E9A has also received certification under FCC (Federal
Communications in the USA) Rules Part 15, Subpart J, Class A
Limits for Radio Frequency Interference Emissions (Commercial and
Industrial Computing Devices).

As a result of these tests we also have evidence to show that we
comply with VDE regulations, though actual test certification can
only be carried out in W. Germany

COMPETITION

Stag : They originally announced their PP39 in December 1983 for delivery in January 1984. Their sales force did not get demonstrator models until June/July and customer deliveries are only now starting. But only the EPROM programming module is available. No clear definition has been given on their single chip processor modules: it appears that they will have separate modules to do 8748/49 etc and 8751/52 etc., instead of doing everything in one module as they originally intended. Their price for PP39 plus 8748 module is higher than our E2A plus E4.

Stag DO NOT HAVE INTEL APPROVAL for either their PP39 or PPZ universal. Do not be misled by statements in their literature intimating that they are approved. Their statements are factually incorrect.

The only literature available on the PP39 is a "Temporary Data Sheet". However through various sources we are confident in making the following comments:
1. The standard size RAM is 64K (512 bits) and they claim expandability to 1M bits. The memory expansion is not available nor do they have a price for it. 1M bits is 128K bytes which we offer right now.
2. There are 2 sockets which may be used as either master/copy or as a 2-copy set. Be aware that whenever the master socket is used also for copying (has Vpp signals), there is the possibility of corrupting or even damaging a master EPROM. Our master socket is fully protected against programming voltage levels, since these higher voltges are not even applied to the master socket. The main advantage of programming a set of 2 EPROMs with different data is to speed up the process. However the PP39 programming cycles, even with fast intelligent programming appear to be much slower than ours. In a time trial one customer made between the PP39 and our E2A on a 2764 Intel Intelligent Algorithms we were almost twice as fast for the total cycle. This, we believe, is explained by the extra time they use to conduct some laborious testing routines, which we have simplified, prior to programming. This delay becomes even more evident with the Fujitsu fast algorithm, and thus the PP39 2-copy set programming "benefit" actually becomes a liability when you also consider the potential for corrupting the master.

3. They claim dynamic access time testing. This is not automatic and needs to be set manually. First you connect an oscilloscope to 2 pins on top of the module; then you read your EPROM and adjust a potentometer knob until the reading cycle fails; then you try to measure the cycle period and calculate the speed. We don't believe many customers will consider this to be a very practical procedure, or very accurate.

4. They stated that their baud rate goes up to 38400. We now have confirmation that they actually only go up to 19200, the same as us.

4

5. They use modules (like universal programmers) to change facilities from EPROMs to Single Chip Processors to Simulation. This will give them the same fundamental connector unreliability problem that they, Data I/O, and others experience with changing modules. Remember that with our machines, once you have selected and plugged in an adapter you don't need to remove it to program EPROMs.

NEW PRODUCTS/FEATURES

E13 Adapter - This single socket adapter, assembled in the same housing as our E4, will be used to read and program the older 3-rail devices (2708 and 2716). This adapter will be available for delivery in September 1984 and will be the same price as our E4 Adapter. This may be used with all A-Series machines, though earlier S/N models will require an EPROM software enhancement.

ENHANCEMENT POLICY

We have up to now been supplying our distributors with enhancement EPROM sets at no charge, on the understanding that the set they have is returned to us. Not only are these sets becoming expensive (27128 x 2) but also scarce in component availability, and we have not been receiving the replacement EPROMs back. Therefore we have adopted the following new policy:

1. All enhancement sets will be invoiced at a standard cost of £60 including postage, against an order number.

2. On receipt of the exchanged set from you we will issue credit for the full £60

Please take note of this new policy and apply it when needed.

TECHNICAL COMMENTS

MOTOROLA 68764 and MCM 68766 — These will now be handled on all new machines (Software issue EA2). An enhancement software EPROM set is available on request for any earlier A-Series units.

TEXAS TMS 2564 — A suspected chip problem is being investigated with Texas. Certain combinations of '00' data may be read back as 'FF'. We will advise you further when we receive more information from Texas.

SOLVING SERIAL INTERFACE PROBLEMS (RS232 Help/Examine)

Quite often the development system or terminal serial configuration is unknown and not even available to the user. If this is the case the Elan E2(A) or E9(A) can be used to narrow down the possibilities quite quickly.

First estimate the baud rate. This can be done quite easily by dumping a file from the development system terminal to the serial port and timing it. Then compare the time with the table of values below.

A 1K dump in format ASCII HEX SPACE takes the following times.

Time in seconds	Baud Rate
4	9600
8	4800
15	2400
22	1800
30	1200
60	600
120	300
200	200
240	150
270	134.5
320	110
480	75
740	50

Secondly set up the Elan serial configuration code 3RC where R is the correct baud rate.

Format 3 (optional) is in fact binary without a header and will therefore store all data received.

Now set the Elan into Input mode ready to receive serial data and send a small known file to it.

If the Elan detects an error the data sent must be 8 data bits and either odd or even parity or 7 data bits no parity 1 stop bit. Try them out to confirm. The error code will indicate where the problem lies.

If the Elan receives the data without detecting an error we have either found the correct configuration last time or the data is 7 bits with parity. Select the Amend mode on the Elan to examine the data stored and identify the Ascii code, using the operator manual section dealing with serial communications.

For example if an ASCII 0 and 1 has been stored.

Stored date	Diagnosis
30 31	7 data bits No parity or 8 data bits
30 B1	7 data bits Even Parity
B0 31	7 data bits Odd Parity

Once the configuration has been identified it can be set for life.

FEEDBACK

If you have any useful experiences or new information about the competition please make a note and send some details to Claire Lacey. The more feedback we have from you the more responsive we can be to changing markets. Good luck!

elan

elan digital systems ltd.

16-20 kelvin way, crawley, west sussex, RH10 2TS, england. telephone : crawley (0293) 510 448