Elan Digital Systems Ltd.

TECHNICAL BULLETIN No.43

General

We have had a few enquiries recently with respect to the programming of bipolar PROMS. Most of these enquiries have been based on a customer requiring bipolar devices for their fast access time.

Their requirements were such that they needed both the support of bipolar and large CMOS EPROMs (1meg - 2meg). This led to the question "could the EF-PER be used in this situation, because there is no support for bipolar PROMS on the EF-PER?". The customer was asked what type of bipolar device was being used. It turned out that the application (video look up table) required an 8K byte memory device with an access speed of 35ns. A CMOS PROM was found that could be programmed on a -932 ZIFPAC and could be used in the application described. The device was the Atmel 27HC641-35.

If you have any similar enquiries, other CMOS proms supported by EF-PER are listed below.

CMOS PROMS	ACCESS SPEED	MEMORY SIZE
ATMEL AT27HC641	35ns - 90ns dependent on type	8K bytes
ICT 27CX321	35ns - 45ns	4K bytes
ICT 27CX641	35ns - 55ns	8K bytes

Note: the above devices are supported only on gang/set ZIFPACs with the A102 adapter.

The above example illustrates the versatility of the EF-PER programmer range.

A similar application can be seen with the support of CMOS PLDs. Most bipolar PALs have an equivalent CMOS part. These new CMOS parts such as GALS, EPLD etc. will emulate a large variety of bipolar parts.

Features of CMOS PLDs can make it more cost effective for the customer to upgrade his equipment, taking full advantage of a single part replacing several different bipolar parts. We also expect the price differential between CMOS and Bipolar devices to reduce during 1990 - 1991. We have found GAL distributors in the UK who are eager to give very favourable prices to customers converting from Bipolar parts.

PLD software for the support of GALs is available *FREE OF CHARGE* from Dave Wooller. This software enables easy conversion of JEDEC files for Bipolar devices such as 16L8, 16R8 etc. to their CMOS equivalent GAL.

There are very few new parts being made using Bipolar technology. CMOS and BiCMOS are getting faster and are the products of the future. What we have demonstrated above is that our new PLD ZIFPAC can provide an alternative Bipolar solution now if you investigate the customer's application carefully.

LOGIC ZIFPAC

Release EP1.01

We now have support for the popular low current Philips PLD, the PLC18V8. This device is ideally suited to battery applications as it has a typical current consumption of 1.5mA per MHz and a standby current of 100uA. Please see the attached an article taken from Philips news letter.

Modification: The new release of firmware has had device insertion tests removed for support of GAL devices from Lattice, National and SGS. This has been done on recommendations from the device manufacturers.

EXFILE 3.03

This latest version has improvements made to Batch mode allowing retry, continue or exit options on occurrence of a function failure.

"Alternate socket" mode has also been added. This is selected from the set-up window. It is now possible to support the PLCC ZIFPAC (4 site gang/set) on the 3000 series programmer. Or alternatively, if you wish to use

our larger Socket Converters in an -832 ZIFPAC you may do this by placing the Converters in site positions 1, 3, 5, and 7 and select the Alternate Socket mode.

Other new features:

Editor allows 7 bit ascii mode (F3 toggles function).

New command line switches :
/c enables calibration mode.
/F <batch file name> this option will invoke the batch file automatically. This feature may be useful in production environments.

SOCKET CONVERTERS

A104 - for the support of the one megabyte (27C010) PLCC EPROM's.

A108 - for the support of the Intel N8797JF microcontroller.

A108A - for the support of the Intel CJ87C196KC microcontroller.

A111 - this provides support for 40pin EPROMs from a 32pin programming site. Applications include programming of 40 pin devices on the P & G stacks and also the -132 ZIFPAC.

Check with Dave Wooller for latest pricing and availability of these new Socket Converters.

ELAN's DEVICE DATABASE.

The database has now got all the devices supported by the EF-PER programmer range stored in it. We have included the print out of this list, the support shows which ZIFPAC the device is supported on, and if required, with which adapter.

We will be continue to input daily all new parts released by manufacturers.

If you would find it useful to be able to access this database directly please let us have your comments. Dave Wooller would be most interested to know what your prefered communication methods and protocols are and whether there is any other additional information you would like to access. *Would this allow you to support your customers better? Would you use it if it were available by modem?*

COMPETITION

Data I/O Model 2900

Data I/O may have done more harm to themselves than to us by introducing this model. The *2900* is taking business directly from the *Unisite 40.* The basic price at around £4000 only includes EPROM device Libraries up to 28 pins (fairly useless). Not all their other Libraries are available yet. Library Disks for other devices will cost up to £1500 each and you will also need new "matchbooks" and possibly other adjustment plates for various device packages. So again it will add up to a high price. This should not affect our product sales at all.

Stag

You should never lose a sale against Stag's *PP40, PP41 or PP42.* All the customer needs to do is try the **Elan EF-PER Model** next to a Stag machine and the difference will be obvious.

When the two machines are next to each other the customer will be impressed with Elan's:
- **instant reading and verifying of devices**
- **easy and fast selection of device type**
- **much easier cartridge upgrades**
- **very fast set programming**
- **direct display of device choice, mode, errors, etc.**

Just try operating a Stag machine yourself after using an Elan EF-PER model and you will see our advantages more clearly. And our device coverage is often better.

If Stag is selling any *PP40, 41 or 42* at all it must mean that you haven't let the customer try EF-PER.

David Wooller
Technical Support Engineer