

# EXPRO-60

## Product Introduction:

**E**XPRO-60 is an Universal Programmer and Tester. It performs parallel communication and control through PC-Bus. EXPRO-60's functions surpass most stand-alone programmers, because it shares all sources of a PC: CPU memory, I/O, key board, display, hard disk and power supply. Its low cost is a great benefit to design engineers. EXPRO-60's hardware circuits are composed of 40 set Pin-Driver circuits, each with TTL I/O control, D/A voltage output control, Ground control, Noise filter circuit control and OSC crystal frequency control. With such a compact circuit architecture and sound software design, EXPRO-60 can process as many as 1200 different ICs, including: EPROM, E/EPROM, Serial PROM, BPROM, MPU, PLD, EPLD, PEEL, GAL, EPL ...etc. with less than 40-Pin. Once you apply our expansion

adapters or PLCC socket converters, ICs can also be processed up to 68-Pin.

EXPRO-60's software is based on SUNSHINE's long-term experience in programming and our customers' precious suggestions. Its powerful and efficient function is exceedingly user friendly. The advanced software updates enable us to undertake custom design of new devices; meanwhile, we have sent EXPRO-60s to IC makers for approval. All these prove our sincere commitment to customer service and an extraordinary software update. EXPRO-60's software provides not only programming files but also multifunction IC test files. It can test digital ICs like TTL 74/54 series, CMOS 40/45 series, DRAM and SRAM. Furthermore, It has a PLD JEDEC VECTOR test program enabling you to set up test vectors of ICs you personally design.

This function to fully utilize the hardware circuits is superior to most other programmers.

## UNIVERSAL PROGRAMMER AND TESTER

**SUNSHINE**

**CP** *citadel*

**PC-82**



21234

# 1

## AUTO FILE ACCESS PROGRAM

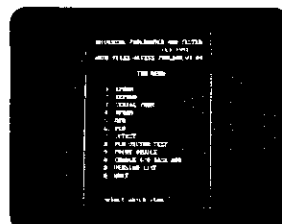
We provide the S/W in two parts: Device Files and Auto File Access. Device Drive Files is for the experienced user to directly execute programming with speed. More than 22 different device drive files cover all IC varieties (EPROM, E/EPROM, Serial PROM, BPROM, PLD, EPLD, GAL, PEEL ....) and the software update is continuing. Auto File Access is a very convenient way for beginners. The user needs only to select the desired IC manufacturer and type number from the menu screen, the program will automatically search and execute its device file. Consequently, the user can learn the entire operation in a very short period of time. In the access program you can print out the current provided IC list and file version for reference, making an update clear, if needed.

# 2

## Enhanced Device Drive File

Auxiliary functions:

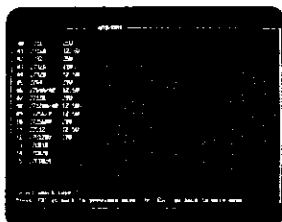
1. DOS SHELL: user can enter DOS and operate other files under DOS environment.
2. LOAD and SAVE: directly down-load user's BIN or JEDEC file to PC buffer or up-load the file from buffer to disk for next use.
3. Directly display buffer contents in BIN or JEDEC format on screen for reference.
4. Full screen editor: user can directly edit or modify contents of any address on screen, including Binary, ASCII and Logic Fuse Map format. Other functions like: Binary search, ASCII search, block move, block fill, block print, checksum and calling external file ..., all meet user's requirements properly.



ACCESS



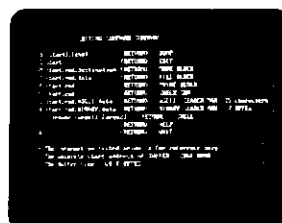
MFR



TYPE



DRIVER FILE



FULL SCREEN EDITOR

Programming functions:

1. MFR and TYPE selection: though the function is already in the Access program, each Driver file still contains it, so the user can select other devices on the current drive file.
2. Modify target zone: in original state the driver programs the whole buffer into device, however, the user can program part of the modified buffer to certain parts of the device.
3. Blank check, Verify, Read, Program and Auto program are functions user needs the most. When you enter the function just press the 'Y' repeatedly to fulfil the desired function. This is a great advantage if you have a large amount of programming.

# 3

## PLD VECTOR TEST

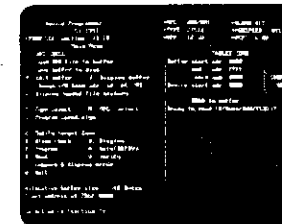
This function can down-load, up-load all JEDEC Fuse Map files (ABEL, PLAN-II, PALASM II, AMAZE, CUPL, PDK-I) for a total function test and loop test. It displays the test results for the user's reference. Acceptable Vector Symbols are as follows:

- |                       |                               |
|-----------------------|-------------------------------|
| 0: apply low          | N: apply power                |
| 1: apply hi           | X: don't care                 |
| H: desired hi output  | C: apply positive clock pulse |
| L: desired low output | K: apply negative clock pulse |
| Z: apply hi-Z         |                               |

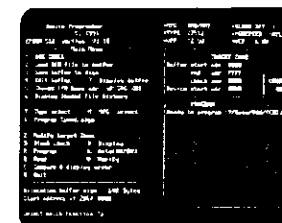
# 4

## IC TEST

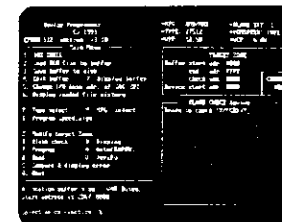
This function covers most TTL 74/54, CMOS 40/45, DRAM and SRAM testing libraries. It can test as many as 300 different ICs and the library is expanding. Next to the main function it down-loads, up-loads user's test vector file; edits test vector, function test and loop test; it can even print out the testing results. An experienced user can use it for a standard PC board test as long as he has the complete cor-



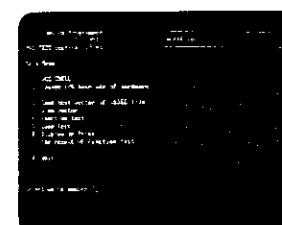
READ



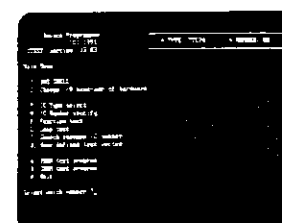
PROGRAM



BLANK CHECK



PLD VECTOR TEST



IC TESTER

0235

responding test vector. It is our aim to enable the user to have powerful functions at a low cost.

## S

### 40 PIN EXPANSION FUNCTION

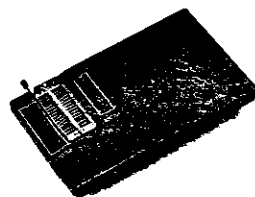
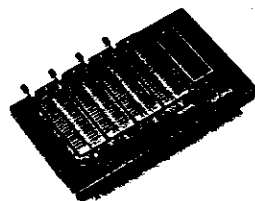
**Expansion adapter:** The built-in H/W circuit for the 40-Pin driver and 40-Pin test socket provides the possibility to add expansion adapters to program 44-PIN, 68-PIN or special new devices. 50 different adapters are available at the moment (please refer to expansion adapter list) to enhance EXPRO-60's function.

**PLCC socket converter:** Available DIP to PLCC socket converters include: DIP20 to PLCC20, DIP24 to PLCC28, DIP40 to PLCC44 (please refer to PLCC socket converter list). Developing support tools is one of our main goals.

## E

### POWERFUL R&D DEPARTMENT

20 highly qualified engineers have been assigned to solve all S/W and H/W issues, collect user's suggestions, provide new IC information, write new device drivers and develop expansion adapters as well as PLCC socket converters. Please contact us for more information.



#### HARDWARE FEATURES:

- 40-Pin test socket with powerful software controlled Pin-Driver circuits, include:
  - 40 sets of programmable TTL I/O
  - 3 groups of programmable D/A voltage sources
  - 2 groups of programmable OSC output sources
  - 1 of 8 grounding circuits
  - Noise filter, current limiter circuit and 4 layers of PCB layout design.
- 60% of digital components are of the high speed CMOS HCT TYPE.
- occupying only 4 I/O addresses of a PC, leads the unit to high efficiency and safety.
- Hardware is expandable for complex device programming by adding expansion adapters or PLCC socket converters (please refer to Expansion adapters list, PLCC socket converters list for more details).

#### SOFTWARE FEATURES:

- The powerful and menu driven software for most popular groups of devices as follows: (please see device list for details)
  - EPROM
  - EEPROM
  - Serial PROM (special 8 pin serial PROM)
  - BIPOLAR PROM
  - MPU (8748, 8751, Z8, 7742, 63701V0 ... series)
  - PLD, GAL, PEEL, EPLD, FPL
  - IC TESTER (TTL 74/54, CMOS 40/45 and memory test)
  - PLD VECTOR TESTER (JEDEC standard)
- Menu driven functions include:
  - DOS Shell
  - BIN/JEDEC file loading and saving
  - Manufacturer and type selection
  - Blank check, Read, Program, Security, Auto, Verify
  - Rapid software updates by floppy diskettes
- Utility Programs:
  - HEXBIN, HEXBIN2: HEX to Binary code converter for Intel 80/86 HEX, Motorola S1/S2/S3 HEX, Tektronix HEX, Digital research HEX.
  - SPLIT2, SPLIT4, SHUFF2, SHUFF4: 2 ways or 4 ways binary file splitter and shuffler
  - DUMP: Dump file to console in binary format

#### SPECIFICATIONS:

Power consumption: 5V max. 0.5 A (stand by)  
max. 0.8 A (active)  
12V max. 0.3 A (stand by)  
max. 1.5 A (active)  
- 12V max. 0.1 A (active)

Module size : 262 mm (L) x 142 mm (W) x 45 mm (H)

Package size : 310 mm (L) x 290 mm (W) x 78 mm (H)

Package weight: 1.9 kgs

#### ORDERING INFORMATION:

- EXPRO-60 includes: - System adapter card SAC-101A and D-25 cable,  
- Universal Programmer and Tester module  
- All supported devices software and user's manual

#### RELEVANT SOFTWARE: (sold separately)

- DASMZ80.EXE : Disassembler for Z8
- DASM85.EXE : Disassembler for 8085
- DASM48.EXE : Disassembler for 8048
- DASM51.EXE : Disassembler for 8051
- DASM09.EXE : Disassembler for 6809
- DASM11.EXE : Disassembler for 68HC11

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# EXPRO-60 DEVICE LIST

| PLD                         |                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                          |                                                                                                                                                                                                          |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                      |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| ALTERA:                     | EP3100/2/3<br>EP630-15/20<br>EP610/30/35/40 NON-TURBO<br>*EP1800-2/3                                                                                                                                                                               | EP320/1-2<br>EP900/2/3<br>EP610/15/20/25 NON-TURBO<br>*EP1810-45/55                                                                                                                                                      | EP330<br>*EP1210/EP1200                                                                                                                                                                                  | EP600/EP610<br>EP1030/35/40/45<br>EP630-15/20 NON-TURBO<br>*EP1210                                                                                                                                | EP600/3<br>EP610/30/35/40<br>EP600/3 NON-TURBO<br>EP630-15/20 NON-TURBO<br>*EPMS016                                                                                                               | EP610/30/35/40<br>EP600/3 NON-TURBO<br>EP630-15/20 NON-TURBO<br>*EPMS016                                                                                                                          | EP610-15/20/25<br>EP610-15/20/25T<br>*EPMS032                                                                                                                                                     | EP900/EP910                                                                                                                                                                                       |                                                                                                                                                                                                   |                                                                                                                      |
| AMI/MMI:                    | EP310<br>*EP1810/EP1800                                                                                                                                                                                                                            | EP320                                                                                                                                                                                                                    | EP330<br>*EP1210/EP1200                                                                                                                                                                                  | EP600/EP610                                                                                                                                                                                       | EP610-15/20-25T<br>*EPMS016                                                                                                                                                                       | EPMS032                                                                                                                                                                                           | EP630-15/20                                                                                                                                                                                       | EP900/EP910                                                                                                                                                                                       |                                                                                                                                                                                                   |                                                                                                                      |
| ADM/MMI:                    | PAL10H8<br>PAL10C1<br>PAL16R8<br>PAL16L2<br>PAL16R8A<br>PAL20R8A<br>PAL10H8-2<br>PAL16L2-2<br>PAL16L8A-2<br>PAL16L8A-4<br>PAL16R8B<br>PAL16R8B-2<br>PAL16L8B-4<br>PAL20L8-10<br>PAL16L8D<br>PALC20R8Z<br>PAL16R8A<br>PALC22V10H-25<br>PALC16L8Z-35 | PAL10L8<br>PAL16H2<br>PAL16R4<br>PAL20R8A10<br>PAL16R4A<br>PAL20X4A<br>PAL10L8-2<br>PAL16R4A-2<br>PAL16R4A-4<br>PAL16R8B<br>PAL16R8B-2<br>PAL16R8B-4<br>PAL20R4-10<br>PAL16R4D<br>PALC20R4Z<br>PAL20R410<br>PALC16R4Z-35 | PAL12H6<br>PAL16L2<br>PAL16R4<br>PAL16R6<br>PAL16R8A<br>PAL20X8A<br>PAL12H6-2<br>PAL16R8A-2<br>PAL16R8A-4<br>PAL16R8B<br>PAL16R8B-2<br>PAL16R8B-4<br>PAL20R8-10<br>PAL16R8D<br>PALC20R8Z<br>PALC16R6Z-35 | PAL12L6<br>PAL16L6<br>PAL16R6<br>PAL16R8A<br>PAL20X10A<br>PAL12L6-2<br>PAL16R8A-2<br>PAL16R8A-4<br>PAL16R8B<br>PAL16R8B-2<br>PAL16R8B-4<br>PAL20R8-10<br>PAL16R8D<br>PALC20R8Z<br>PALC16R6Z-35    | EP600/EP610                                                                                                                                                                                       | EP610-15/20-25T<br>*EPMS016                                                                                                                                                                       | EPMS032                                                                                                                                                                                           | EP630-15/20                                                                                                                                                                                       | EP900/EP910                                                                                                                                                                                       |                                                                                                                      |
|                             | PAL14H4<br>PAL16R8<br>PAL16R4<br>PAL16L8A<br>PAL20R4A<br>PAL20R6A<br>PAL14H4-2<br>PAL14L4-2<br>PAL20L8A-2<br>PAL20R8A-2<br>PAL20R8B<br>PAL20R8B-2<br>PAL20R8D<br>PAL20R4D<br>PAL20R6D<br>PAL20R8D                                                  | PAL14H4<br>PAL16R4<br>PAL16L4<br>PAL16L8A<br>PAL20R4A<br>PAL20R6A<br>PAL14H4-2<br>PAL14L4-2<br>PAL20L8A-2<br>PAL20R8A-2<br>PAL20R8B<br>PAL20R8B-2<br>PAL20R8D<br>PAL20R4D<br>PAL20R6D<br>PAL20R8D                        | PAL14H4<br>PAL16R4<br>PAL16L4<br>PAL16L8A<br>PAL20R4A<br>PAL20R6A<br>PAL14H4-2<br>PAL14L4-2<br>PAL20L8A-2<br>PAL20R8A-2<br>PAL20R8B<br>PAL20R8B-2<br>PAL20R8D<br>PAL20R4D<br>PAL20R6D<br>PAL20R8D        | PAL14H4<br>PAL16R8<br>PAL16R4<br>PAL16L8A<br>PAL20R4A<br>PAL20R6A<br>PAL14H4-2<br>PAL14L4-2<br>PAL20L8A-2<br>PAL20R8A-2<br>PAL20R8B<br>PAL20R8B-2<br>PAL20R8D<br>PAL20R4D<br>PAL20R6D<br>PAL20R8D | PAL14H4<br>PAL16R8<br>PAL16R4<br>PAL16L8A<br>PAL20R4A<br>PAL20R6A<br>PAL14H4-2<br>PAL14L4-2<br>PAL20L8A-2<br>PAL20R8A-2<br>PAL20R8B<br>PAL20R8B-2<br>PAL20R8D<br>PAL20R4D<br>PAL20R6D<br>PAL20R8D | PAL14H4<br>PAL16R8<br>PAL16R4<br>PAL16L8A<br>PAL20R4A<br>PAL20R6A<br>PAL14H4-2<br>PAL14L4-2<br>PAL20L8A-2<br>PAL20R8A-2<br>PAL20R8B<br>PAL20R8B-2<br>PAL20R8D<br>PAL20R4D<br>PAL20R6D<br>PAL20R8D | PAL14H4<br>PAL16R8<br>PAL16R4<br>PAL16L8A<br>PAL20R4A<br>PAL20R6A<br>PAL14H4-2<br>PAL14L4-2<br>PAL20L8A-2<br>PAL20R8A-2<br>PAL20R8B<br>PAL20R8B-2<br>PAL20R8D<br>PAL20R4D<br>PAL20R6D<br>PAL20R8D | PAL14H4<br>PAL16R8<br>PAL16R4<br>PAL16L8A<br>PAL20R4A<br>PAL20R6A<br>PAL14H4-2<br>PAL14L4-2<br>PAL20L8A-2<br>PAL20R8A-2<br>PAL20R8B<br>PAL20R8B-2<br>PAL20R8D<br>PAL20R4D<br>PAL20R6D<br>PAL20R8D | PAL14H4<br>PAL16R8<br>PAL16R4<br>PAL16L8A<br>PAL20R4A<br>PAL20R6A<br>PAL14H4-2<br>PAL14L4-2<br>PAL20L8A-2<br>PAL20R8A-2<br>PAL20R8B<br>PAL20R8B-2<br>PAL20R8D<br>PAL20R4D<br>PAL20R6D<br>PAL20R8D |                                                                                                                      |
| AMD AmPAL:                  | 16L8<br>16L8A<br>16L8B<br>16L8Q<br>16L8L<br>16R8A<br>AmPAL22V10-20<br>PAL16L8H-10<br>PAL16L8-7<br>PAL16L8-5<br>PALC16V8H/Q<br>PALC16V8Z                                                                                                            | 16R4<br>16R4A<br>16R4L<br>16R4B<br>16R4Q<br>16R4L<br>20L10A<br>AmPAL22V10-15<br>PAL16R4H-10<br>PAL16R4-7<br>PAL16R4-5<br>PALC20V8H/Q<br>PALC22V10Z                                                                       | 16R6<br>16R6A<br>16R6AL<br>16R6B<br>16R6Q<br>16R6L<br>20L10B<br>PAL16R6H-10<br>PAL16R6-7<br>PAL16R6-5<br>PALC22V10H/Q<br>PALC24V10                                                                       | 16R8<br>16R8A<br>16R8AL<br>16R8B<br>16R8Q<br>16R8L<br>20L10-20<br>PAL16R8H-10<br>PAL16R8-7<br>PAL16R8-5<br>PALC26V12                                                                              | 16R8<br>16R8A<br>16R8AL<br>16R8B<br>16R8Q<br>16R8L<br>20L10-20<br>PAL16R8H-10<br>PAL16R8-7<br>PAL16R8-5<br>PALC26V12                                                                              | 16R8<br>16R8A<br>16R8AL<br>16R8B<br>16R8Q<br>16R8L<br>20L10-20<br>PAL16R8H-10<br>PAL16R8-7<br>PAL16R8-5<br>PALC26V12                                                                              | 16R8<br>16R8A<br>16R8AL<br>16R8B<br>16R8Q<br>16R8L<br>20L10-20<br>PAL16R8H-10<br>PAL16R8-7<br>PAL16R8-5<br>PALC26V12                                                                              | 16R8<br>16R8A<br>16R8AL<br>16R8B<br>16R8Q<br>16R8L<br>20L10-20<br>PAL16R8H-10<br>PAL16R8-7<br>PAL16R8-5<br>PALC26V12                                                                              | 16R8<br>16R8A<br>16R8AL<br>16R8B<br>16R8Q<br>16R8L<br>20L10-20<br>PAL16R8H-10<br>PAL16R8-7<br>PAL16R8-5<br>PALC26V12                                                                              | 16R8<br>16R8A<br>16R8AL<br>16R8B<br>16R8Q<br>16R8L<br>20L10-20<br>PAL16R8H-10<br>PAL16R8-7<br>PAL16R8-5<br>PALC26V12 |
| AMI:                        | PEEL153                                                                                                                                                                                                                                            | PEEL173                                                                                                                                                                                                                  | PEEL18CV8                                                                                                                                                                                                | PEEL22CV10                                                                                                                                                                                        | PEEL253                                                                                                                                                                                           | PEEL273                                                                                                                                                                                           | PEEL20CG10                                                                                                                                                                                        | PEEL22CV10Z                                                                                                                                                                                       |                                                                                                                                                                                                   |                                                                                                                      |
| ATMEL:                      | AT22V10                                                                                                                                                                                                                                            | AT22V10L                                                                                                                                                                                                                 | ATV750                                                                                                                                                                                                   | *ATV2500                                                                                                                                                                                          |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                      |
| CYPRESS:                    | PALC16L8<br>PALC22V10A                                                                                                                                                                                                                             | PALC16R8<br>PALC22V10B                                                                                                                                                                                                   | PALC16R6<br>PALC16R4                                                                                                                                                                                     | PALC22V10                                                                                                                                                                                         | PLD20G10                                                                                                                                                                                          | PLDC20G10A                                                                                                                                                                                        | PLDC20G10B                                                                                                                                                                                        |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                      |
| GOULD:                      | PEEL153                                                                                                                                                                                                                                            | PEEL173                                                                                                                                                                                                                  | PEEL18CV8                                                                                                                                                                                                | PEEL22CV10                                                                                                                                                                                        | PEEL253                                                                                                                                                                                           | PEEL273                                                                                                                                                                                           | PEEL20CG10                                                                                                                                                                                        | PEEL22CV10Z                                                                                                                                                                                       |                                                                                                                                                                                                   |                                                                                                                      |
| HYUNDAI:                    | HY18CV8                                                                                                                                                                                                                                            |                                                                                                                                                                                                                          |                                                                                                                                                                                                          |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                      |
| ICT:                        | PEEL153                                                                                                                                                                                                                                            | PEEL173                                                                                                                                                                                                                  | PEEL18CV8                                                                                                                                                                                                | PEEL22CV10                                                                                                                                                                                        | PEEL253                                                                                                                                                                                           | PEEL273                                                                                                                                                                                           | PEEL20CG10                                                                                                                                                                                        | PEEL22CV10Z                                                                                                                                                                                       |                                                                                                                                                                                                   |                                                                                                                      |
| INTEL:                      | 5C031<br>*5C180                                                                                                                                                                                                                                    | 5C032-25/30/35<br>*5AC324                                                                                                                                                                                                | 5C060-45/55<br>85C224-66/80                                                                                                                                                                              | 5C090-50/60<br>5AC312-25/30                                                                                                                                                                       | 85C220-66/80                                                                                                                                                                                      | 85C60-12/15/25                                                                                                                                                                                    | 5C090-15/20/25                                                                                                                                                                                    |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                      |
| LATTICE:                    | GAL16V8<br>GAL20R10UES<br>GAL6001                                                                                                                                                                                                                  | GAL16V8A<br>GAL22V10UES<br>*GAL26CV12                                                                                                                                                                                    | GAL16V8B<br>GAL20R10(NO UES)<br>*GAL26CV12B                                                                                                                                                              | GAL18V10<br>GAL22V10(NO UES)                                                                                                                                                                      | GAL18V10B<br>GAL22V10(NO UES)                                                                                                                                                                     | GAL20V8A<br>GAL16V8B-7                                                                                                                                                                            | GAL20V8B<br>GAL20V8B-7                                                                                                                                                                            |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                      |
| * : NEED EXPANSION ADAPTOR. |                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                          |                                                                                                                                                                                                          |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                                                                                                   |                                                                                                                      |

\* : NEED EXPANSION ADAPTOR.

7/1/1991  
2 OF 5

| NS DMPAL A/B:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                               |                                                                                                                                                 |                                                                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                                |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--|--|--|
| 10H8<br>16C1<br>18L4<br>10H8A<br>16C1A<br>18L4A<br>20X4A<br>10H8A2<br>16L2A2<br>16L8B<br>16L8B2<br>GAL16V8<br>*16L8D<br>*16L8D-7<br>GAL20R10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 10L8<br>16H2<br>20C1<br>10L8A<br>16H2A<br>20C1A<br>20X8A<br>10L8A2<br>16L8A2<br>16R4B<br>16R4B2<br>GAL20V8<br>*16R4D<br>*16R4D-7<br>GAL16V8QS | 12H6<br>16L2<br>20C1<br>12H6A<br>16L2A<br>20L2A<br>20X10A<br>12H6A2<br>16L6A2<br>16R4B<br>16R4B2<br>GAL22V10<br>*16R4D<br>*16R4D-7<br>GAL16V8-7 | 12L6<br>16L4<br>20L10<br>12L6A<br>16L6A<br>20L8A<br>20X10A<br>12L6A2<br>16R4A2<br>16R8B<br>16R8B2<br>GAL6001<br>*16R8D<br>*16R8D-7<br>GAL16V8A | 14H4<br>16R4<br>20X8<br>14H4A<br>16R4A<br>20R4A<br>14H4A2<br>16R8A2<br>20L8B<br>20R4B<br>GAL16V8A<br>*20R4D<br>*20R4D-7<br>GAL20V8QS | 14L4<br>16R6<br>20X10<br>14L4A<br>16R6A<br>20R6A<br>14L4A2<br>16C1A2<br>20R6B<br>20R8B<br>GAL16R8A<br>*20R6D<br>*20R6D-7<br>GAL20V8A | 14L8<br>16R8<br>20R8B<br>14L8A<br>16R8A<br>20R8A<br>16H2A2<br>20R8B<br>20R8B<br>GAL20R10<br>*20R8D<br>*20R8D-7 |  |  |  |
| <b>SAMSUNG:</b><br>PALC22V10H-35    PALC22V10H-25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                               |                                                                                                                                                 |                                                                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                                |  |  |  |
| <b>SECO:</b><br>PQ20R10Z-45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                               |                                                                                                                                                 |                                                                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                                |  |  |  |
| <b>SGS-THOMSON:</b><br>GAL16V8    GAL16V8A    GAL20V8    GAL20V8A    GAL22V10    GAL6001    GAL16V8AS    GAL16V8A<br>GAL20V8A    GAL20V8AS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                               |                                                                                                                                                 |                                                                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                                |  |  |  |
| <b>SIGNETICS:</b><br>PLC16V8    PLC20V8    PLS153    PLS173    PLUS153    PLUS173    PLUS16L8    PLUS16R4<br>PLUS16R6    PLUS16R8    PLUS20L8    PLUS20R4    PLUS20R6    PLUS20R8<br>PLUS16L8A    PLUS16P8A    PLS153A    PLS168A<br>PLC18V8Z    PLC22V8Z    PLC42V1A12<br>PHD16N8-5    PLS159A    PLS167A    PLS168A    PLS157    PLS179<br>PLS155    *PLS104A    *PLS105    *PLS105A    *PLUS105    *PLUS405<br>*PLS100    *PLS101    *PLC415    *PLH5473                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                               |                                                                                                                                                 |                                                                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                                |  |  |  |
| <b>TI TIBPAL:</b><br>20L10    20X4    20X8    20X10    20L8-25    20R4-25    20R6-25    20R8-25<br>16L8-25    16R4-25    16R6-25    16R8-25    20L8-15    20R4-15    20R6-15    20R8-15<br>16L8H-15    16R4H-15    16R8H-15    16R8H-15<br>16L8-12    16R4-12    16R6-12    16R8-12<br>16L8-10    16R4-10    16R6-10    16R8-10<br>16L8-7    16R4-7    16R6-7    16R8-7    20L8-7    20R4-7    20R6-7    20R8-7<br>TIBPAL22V10Z(TURBO MODE)    TIBPAL22V10Z(ZERO POWER MODE)<br>TIBPAL22V10    TIBPAL22V10A    TIBPAL22V10-15    TIBPAL22V10-20    TIBPAL22V10-25<br>EP330-15/20-25    EP610-25/30/35    EP630-20/25    EP910-30/35/40    *EP1810-35/45<br>TIBPAD16N8-7    TIBPAD16N8-6    TIBPAL16R6-5    TIBPAL16R8-5    TIBPAL20R8-5    TIBPAL20R4-5    TIBPAL20R6-5    TIBPAL20R8-5<br>TIBPAL20L8-10    TIBPAL20R4-10    TIBPAL20R6-10    TIBPAL20R8-10<br>TIBPLC506    TIBPSG507<br>*TIBPAL16L8-55    *TIBPAL16R4-55    *TIBPAL16R6-55    *TIBPAL16R8-55 |                                                                                                                                               |                                                                                                                                                 |                                                                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                                |  |  |  |
| <b>VLSI:</b><br>VP16V8    VP20V8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                               |                                                                                                                                                 |                                                                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                                |  |  |  |
| * NEED EXPANSION ADAPTOR.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                               |                                                                                                                                                 |                                                                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                                |  |  |  |

\* : NEED EXPANSION ADAPTOR.

# EXPROM-60 DEVICE LIST

7/1/1991  
3 OF 5

| EXPROM              |           |           |           |           |           |           |           |           |           |
|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>AMD/MM:</b>      | 2716B     | 2732      | 2732A     | 2732B     | 2764      | 2764A     | 2764AP    | 27C64     | 2712B     |
|                     | 27128A    | 27C128    | 27C128    | 27C256    | 27C256H   | 27C256P   | 27C512    | 27C512H   | 27C512    |
|                     | 27C256    | 27C1024   | 27C256    | 27C256    | 27C256    | 27C256    | 27C512    | 27C512H   | 27C512    |
| <b>ATMEL:</b>       | AT27HC64  | AT27HC128 | AT27HC256 | AT27HC256 | AT27HC256 | AT27HC256 | AT27HC512 | AT27HC512 | AT27HC512 |
|                     | AT27HC128 | AT27HC128 | AT27HC256 | AT27HC256 | AT27HC256 | AT27HC256 | AT27HC512 | AT27HC512 | AT27HC512 |
| <b>CATALYST:</b>    | CS2716A   | CS27128A  | CS27256   | CS27256   | CS27256   | CS27256   | CS27256   | CS27256   | CS27256   |
| <b>CYPRESS:</b>     | 7C25      | 7C253     | 7C254     | 7C261     | 7C263     | 7C264     | 7C271     | 7C271     | 7C271     |
| <b>FUJITSU:</b>     | MBM8516   | MBM8732   | MBM8532   | MBM8732A  | MBM8732A  | MBM8732A  | MBM8732A  | MBM8732A  | MBM8732A  |
|                     | MBM8732   | MBM8732   | MBM8732   | MBM8732   | MBM8732   | MBM8732   | MBM8732   | MBM8732   | MBM8732   |
| <b>HITACHI:</b>     | HN462716  | HN462732  | HN462732A | HN462732A | HN462732A | HN462732A | HN462732A | HN462732A | HN462732A |
|                     | HN462732  | HN462732  | HN462732  | HN462732  | HN462732  | HN462732  | HN462732  | HN462732  | HN462732  |
| <b>HYUNDAI:</b>     | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>INTEL:</b>       | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
|                     | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>MATSHITA:</b>    | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>MICROCHIP:</b>   | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>MITSUBISHI:</b>  | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>MOSTEK:</b>      | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>MOTOROLA:</b>    | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>MXIC:</b>        | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>NEC:</b>         | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>NS:</b>          | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>OKI:</b>         | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>ROHM:</b>        | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>SECO:</b>        | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>SIGNETICS:</b>   | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>SMDS:</b>        | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>SOS-THOMSON:</b> | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>TI:</b>          | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>TOSHIBA:</b>     | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>WSI:</b>         | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>VL:</b>          | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |
| <b>SAMSUNG:</b>     | 27C64     | 27C128    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    | 27C256    |

\* : NEED EXPANSION ADAPTOR

# EXPROM-60 DEVICE LIST

7/1/1991  
4 OF 5

| EXPROM            |        |        |        |        |        |        |        |        |        |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>AMD:</b>       | 2817A  | 2864A  | 28F256 | 28F512 | 28F01Q | 28F020 | 28F020 | 28F020 | 28F020 |
| <b>ATMEL:</b>     | 28C16  | 28HC16 | 28HC16 | 28C17  | 28C17  | 28C17  | 28C17  | 28C17  | 28C17  |
|                   | 28C16  | 28C16  | 28C16  | 28C17  | 28C17  | 28C17  | 28C17  | 28C17  | 28C17  |
| <b>CATALYST:</b>  | 28C16A | 28C17A | 28C64A | 28C64A | 28C64A | 28C64A | 28C64A | 28C64A | 28C64A |
| <b>EXEL:</b>      | 2816A  | 2817A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  |
| <b>HITACHI:</b>   | 58C64  | 58C65  | 58C256 | 58C256 | 58C256 | 58C256 | 58C256 | 58C256 | 58C256 |
| <b>HUGHES:</b>    | H1300  | H1300  | H1300  | H1300  | H1300  | H1300  | H1300  | H1300  | H1300  |
| <b>INTEL:</b>     | 2816   | 2817A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  |
| <b>MICROCHIP:</b> | 28C16A | 28HC16 | 28C17A | 28C17  | 28C17  | 28C17  | 28C17  | 28C17  | 28C17  |
| <b>NEC:</b>       | 28C64  | 28C64  | 28C64  | 28C64  | 28C64  | 28C64  | 28C64  | 28C64  | 28C64  |
| <b>NS:</b>        | 2816   | 2817A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  |
| <b>OKI:</b>       | 28C16A | 28C64A | 28C64A | 28C64A | 28C64A | 28C64A | 28C64A | 28C64A | 28C64A |
| <b>ROCKWELL:</b>  | 2816   | 2817A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  |
| <b>SAMSUNG:</b>   | 28C16  | 28C17  | 28C64  | 28C64  | 28C64  | 28C64  | 28C64  | 28C64  | 28C64  |
| <b>SECO:</b>      | 2816A  | 2817A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  |
| <b>VL:</b>        | 2816   | 2817A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  |
| <b>XICOR:</b>     | 2816B  | 2817A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  | 2864A  |

# SPECIAL FORM

|                    |         |        |        |       |       |       |       |       |       |
|--------------------|---------|--------|--------|-------|-------|-------|-------|-------|-------|
| <b>FUJITSU:</b>    | MB6541P | 93C46  | 93C46A | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 |
| <b>IC:</b>         | 93C46   | 93C46A | 93C46  | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 |
| <b>MATSHITA:</b>   | 93C46   | 93C46A | 93C46  | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 |
| <b>MICROCHIP:</b>  | 93C46   | 93C46A | 93C46  | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 |
| <b>MITSUBISHI:</b> | 93C46   | 93C46A | 93C46  | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 |
| <b>NS:</b>         | 93C46   | 93C46A | 93C46  | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 |
| <b>OKI:</b>        | 93C46   | 93C46A | 93C46  | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 |
| <b>SAMSUNG:</b>    | 93C46   | 93C46A | 93C46  | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 |
| <b>XICOR:</b>      | 93C46   | 93C46A | 93C46  | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 |
| <b>KLUX:</b>       | 93C46   | 93C46A | 93C46  | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 | 93C46 |

# MPU

|                     |      |        |       |       |       |      |        |       |       |
|---------------------|------|--------|-------|-------|-------|------|--------|-------|-------|
| <b>AMD:</b>         | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |
| <b>HITACHI:</b>     | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |
| <b>INTEL:</b>       | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |
| <b>MICROCHIP:</b>   | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |
| <b>MOTOROLA:</b>    | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |
| <b>NEC:</b>         | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |
| <b>SIGNETICS:</b>   | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |
| <b>SOS-THOMSON:</b> | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |
| <b>TI:</b>          | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |
| <b>WSI:</b>         | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |
| <b>ZILOG:</b>       | 8751 | 87C521 | 87C54 | 8751H | 8753H | 8747 | 87C522 | 8751H | 8752H |

\* : NEED EXPANSION ADAPTOR

7/1/99  
1 OF 5

# EXPRO-60 DEVICE LIST

| BIPROM       |           |           |           |          |           |         |         |
|--------------|-----------|-----------|-----------|----------|-----------|---------|---------|
| AMD:         | 27S13     | 27S18     | 27S18C    | 27S181   | 27S184    | 27S185  | 27S19   |
| 27S12        | 27S191    | 27S20     | 27S21     | 27S28    | 27S280    | 27S281  | 27S29   |
| 27S190       | 27S191    | 27S21     | 27S31     | 27S32    | 27S33     | 27S34   | 27S39   |
| 27S12A       | 27S13A    | 27S18A    | 27S18CA   | 27S181A  | 27S184A   | 27S185A | 27S19A  |
| 27S190A      | 27S191A   | 27S20A    | 27S21A    | 27S28A   | 27S280A   | 27S281A | 27S29A  |
| 27S290A      | 27S291A   | 27S31A    | 27S32A    | 27S33A   | 27S34A    | 27S35A  | 27S39A  |
| ASAMI KASEI: |           |           |           |          |           |         |         |
| AK27CX 61    | AK27CX162 | AK27CX321 | AK27CX322 | AK27CX64 | AK27CX642 |         |         |
| ATMEL:       |           |           |           |          |           |         |         |
| 27HC641      | 27HC642   |           |           |          |           |         |         |
| CYPRESS:     |           |           |           |          |           |         |         |
| CY7C225      | CY7C235   | CY7C245   | CY7C261   | CY7C263  | CY7C264   | CY7C268 | CY7C269 |
| CY7C281      | CY7C282   | CY7C291   | CY7C292   |          |           |         |         |
| HARRIS:      |           |           |           |          |           |         |         |
| 7602         | 7603      | 7610      | 7611      | 7616     | 7615      | 7620    | 7621    |
| 7632         | 7640      | 7641      | 7642      | 7643     | 7649      | 7681    | 7685    |
| ICT:         |           |           |           |          |           |         |         |
| 27CX321      | 27CX322   | 27CX641   | 27CX642   |          |           |         |         |
| MICROCHIP:   |           |           |           |          |           |         |         |
| 27C641       |           |           |           |          |           |         |         |
| MAN:         |           |           |           |          |           |         |         |
| 63S140       | 63S1640   | 63S1681   | 63S1240   | 63S124   | 63S1441   | 63S180  | 63S181  |
| 63S140       | 63S141    | 63S1640   | 63S1681   | 63S1241  | 63S1441   | 63S180  | 63S181  |
| 63S281       | 63S3281   | 63S440    | 63S441    | 63S480   | 63S481    | 63S485  | 63S480  |
| 63S841       | 63S881    |           |           |          |           |         |         |
| MOTOROLA:    |           |           |           |          |           |         |         |
| 7520         | 7521      | 7540      | 7541      | 7542     | 7543      | 7549    | 7580    |
| 7681         | 7684      | 7685      |           |          |           |         |         |
| NS:          |           |           |           |          |           |         |         |
| 74S188       | 74S187    | 74S188    | 74S187    | 74S187   | 74S187    | 74S187  | 74S187  |
| 74S170       | 74S171    | 74S172    | 74S173    | 74S173   | 74S173    | 74S173  | 74S173  |
| 74S190       | 74S191    | 74S192    | 74S193    | 74S193   | 74S193    | 74S193  | 74S193  |
| 74S180       | 74S181    | 74S182    | 74S183    | 74S183   | 74S183    | 74S183  | 74S183  |
| 87S290       | 87S291    | 87S292    | 87S293    | 87S293   | 87S293    | 87S293  | 87S293  |
| 74S472A      | 74S473A   | 74S474A   | 74S475A   | 74S475A  | 74S475A   | 74S475A | 74S475A |
| 77S181A      | 77S182A   | 77S183A   | 77S184A   | 77S184A  | 77S184A   | 77S184A | 77S184A |
| 77S291A      | 77S292A   | 77S293A   | 77S294A   | 77S294A  | 77S294A   | 77S294A | 77S294A |
| 87S290A      | 87S291A   | 87S292A   | 87S293A   | 87S293A  | 87S293A   | 87S293A | 87S293A |
| 74S472B      | 74S473B   | 74S474B   | 74S475B   | 74S475B  | 74S475B   | 74S475B | 74S475B |
| 77S290B      | 77S291B   | 77S292B   | 77S293B   | 77S293B  | 77S293B   | 77S293B | 77S293B |
| SIGNETICS:   |           |           |           |          |           |         |         |
| 82S123       | 82S124    | 82S125    | 82S126    | 82S126   | 82S126    | 82S126  | 82S126  |
| 82S140       | 82S141    | 82S142    | 82S143    | 82S143   | 82S143    | 82S143  | 82S143  |
| 82S164       | 82S165    | 82S166    | 82S167    | 82S167   | 82S167    | 82S167  | 82S167  |
| 82S173A      | 82S174A   | 82S175A   | 82S176A   | 82S176A  | 82S176A   | 82S176A | 82S176A |
| 82S177A      | 82S178A   | 82S179A   | 82S180A   | 82S180A  | 82S180A   | 82S180A | 82S180A |
| 82S187       | 82S188    | 82S189    | 82S190    | 82S190   | 82S190    | 82S190  | 82S190  |
| 27HC641      | 27HC642   |           |           |          |           |         |         |
| TI:          |           |           |           |          |           |         |         |
| 28S030       | 28S10     | 28S11     | 28S12     | 28S13    | 28S14     | 28S15   | 28S16   |
| 28L166       | 28L22     | 28L23     | 28L24     | 28L25    | 28L26     | 28L27   | 28L28   |
| 28LA22       | 28S165    | 28S166    | 28S167    | 28S168   | 28S169    | 28S170  | 28S171  |
| 28S66        | 28S67     | 28S68     | 28S69     | 28S70    | 28S71     | 28S72   | 28S73   |
| TMS27C291    | TMS27C292 |           |           |          |           |         |         |
| WSI:         |           |           |           |          |           |         |         |
| 57C191       | 57C291    | 57C1915   | 57C2915   | 57C43    |           |         |         |
| 57C43B       | 57C49     | 57C49B    | 57C51     |          |           |         |         |

# EXPRO-60 IC TEST LIST

7/1/99  
1 OF 1

| TL74.LIB   |      |        |       |      |      |       |        |       |      |      |      |
|------------|------|--------|-------|------|------|-------|--------|-------|------|------|------|
| 0000       | 0001 | 0002   | 0003  | 0004 | 0005 | 0006  | 0007   | 0008  | 0009 |      |      |
| 0010       | 0011 | 0012   | 0013  | 0014 | 0015 | 0016  | 0017   | 0018  | 0019 | 0020 | 0021 |
| 0022       | 0025 | 0026   | 0027  | 0028 | 0030 | 0032  | 0033   | 0037  | 0038 | 0039 |      |
| 0040       | 0042 | 0043   | 0045  | 0046 | 0047 | 0048  | 0050   | 0051  | 0053 | 0055 |      |
| 0054       | 0055 | 0060   | 0061  | 0064 | 0070 | 0071  | 0074   | 0085  | 0086 |      |      |
| 0089       | 0095 | 0107   | 0108  | 0109 | 0110 | 0111  | 0112   | 0113  | 0114 |      |      |
| C18        | 0125 | 0126   | 0128  | 0129 | 0130 | 0131  | 0132   | 0138  | 0139 |      |      |
| C145       | 0145 | 0147   | 0150  | 0151 | 0152 | 0153  | 0154   | 0156  | 0158 |      |      |
| C157       | 0138 | 0159   | 0160  | 0161 | 0162 | 0163  | 0164   | 0165  | 0166 |      |      |
| C66        | 0170 | 0173   | 0174  | 0175 | 0180 | 0183  | 0189   | 0190  | 0191 |      |      |
| C192       | 0193 | 0194   | 0195  | 0240 | 0241 | 0242  | 0243   | 0244  | 0245 |      |      |
| C247       | 0248 | 0249   | 0251  | 0253 | 0256 | 0257  | 0258   | 0259  | 0260 |      |      |
| C266       | 0273 | 0275   | 0279  | 0280 | 0283 | 0290  | 0293   | 0295  | 0298 |      |      |
| C299       | 0322 | 0323   | 0331  | 0332 | 0333 | 0365  | 0366   | 0367  | 0368 |      |      |
| C373       | 0374 | 0375   | 0377  | 0378 | 0384 | 0390  | 0393   | 0465  | 0490 |      |      |
| C540       | 0543 | 0543   | 0574  | 0590 | 0640 | 0641  | 0643   | 0644  | 0645 |      |      |
| C646       | 0648 | 0669   | 0670  | 0686 | 0804 | 0805  | 0870   |       |      |      |      |
| CMOS40.LIB |      |        |       |      |      |       |        |       |      |      |      |
| 0000       | 0001 | 0002   | 0006  | 0007 | 0008 | 0009  | 0010   | 0011  | 0012 |      |      |
| 0013       | 0014 | 0015   | 0016  | 0017 | 0018 | 0019  | 0020   | 0021  | 0022 |      |      |
| 0023       | 0025 | 0026   | 0027  | 0028 | 0029 | 0030  | 0032   | 0033  | 0035 |      |      |
| 0036       | 0041 | 0041   | 0042  | 0043 | 0044 | 0048  | 0049   | 0050  | 0051 |      |      |
| 0052       | 0053 | 0054   | 0055  | 0056 | 0060 | 0063  | 0066   | 0067  | 0068 |      |      |
| 0069       | 0070 | 0071   | 0072  | 0073 | 0077 | 0078  | 0079   | 0081  | 0084 |      |      |
| 0087       | 0088 | 0086   | 0093  | 0094 | 0095 | 0096  | 0097   | 0099  | 0101 |      |      |
| 0102       | C03  | 0125   | 0126  | 0128 | 0129 | C61   | 0121   | 0122  | 0123 |      |      |
| 0174       | C075 | 0192   | 0193  | 0194 |      |       |        | 0162  | 0163 |      |      |
| CMOS45.LIB |      |        |       |      |      |       |        |       |      |      |      |
| 0000       | 0002 | 0003   | 0004  | 0006 | 0008 | 0010  | 0011   | 0012  | 0014 |      |      |
| 0015       | 0016 | 0017   | 0018  | 0019 | 0020 | 0022  | 0024   | 0028  | 0043 |      |      |
| 0052       | 0055 | 0056   | 0072  |      | 0082 |       |        |       |      |      |      |
| DRAM       |      |        |       |      |      |       |        |       |      |      |      |
| 4164       | 4196 | 41'000 | 41416 | 4416 | 4464 | 41464 | 414256 | 44256 |      |      |      |
| SRAM       |      |        |       |      |      |       |        |       |      |      |      |
| 6116       | 6264 | 62256  |       |      |      |       |        |       |      |      |      |

7/1/1991  
1 OF 1

#### EXPRO-60 Expansion Adapters

ADP-EP32 : for general EPROM from 2716 to 27512, 32-pin BYTE-WIDE 1M, 2M, 4M, 8M BIT EPROM. 4 sockets.  
ADP-EP40 : for WORD-WIDE EPROM 40-pin 1M, 2M, 4M, 8M BIT EPROM. 4 sockets.  
ADP-48F : for 8748 series MPU, 4 sockets.  
ADP-51F : for 8751 series MPU, 4 sockets.  
ADP-GAL16V8 : for LATTICE GAL16V8A/QS-7, NS GAL16V8A/QS-7, SGS GAL16V8A/QS-7, 4 sockets.  
ADP-GAL20V8 : for LATTICE GAL20V8A/QS-7, NS GAL20V8A/QS-7, SGS GAL20V8A/QS-7, 4 sockets.  
ADP-C216V8 : for AMD PALCE16V8H/Q, 4 sockets.  
ADP-C220V8 : for AMD PALCE20V8H/Q, 4 sockets.  
ADP-PEEL18CV8 : for ICT, AMI, GOULD, HYUNDAI PEEL18CV8, 4 sockets.  
ADP-NSDPA1 : for NS D-type PAL 16L8D/R8D/R6D/R4D, 20L8D/R8D/R6D/R4D, 16L8D-7/R8D/R6D-7/R4D-7, 20L8D-7/R8D-7/R6D-7/R4D-7.  
ADP-PL5105 : for SIGNETICS PL5104/A105/A415 PLUS105/405.  
ADP-1810PLCC : for ALTECA, TI, INTEL EP510, SC180.  
ADP-8796PGA : for INTEL 8796BH, 8797BH PGA-type.  
ADP-48705 : for MOTOROLA 68705 P3/P5, U3/U5, R3/R5.  
RAM-ROM16 : BATTERY BACKUP RAM emulates EPROM 2716.  
RAM-ROM32 : BATTERY BACKUP RAM emulates EPROM 2732.  
RAM-ROM256 : BATTERY BACKUP RAM emulates EPROM 2764/27128/27256.  
RAM-ROM512 : BATTERY BACKUP RAM emulates EPROM 27512.  
ADP-PLCC-EP : #1 32 pin-PLCC socket for General EPROM from 2764 to 27512. N.C. pins are 1, 12, 17, 26.  
ADP-PLCC-PAL : #2 32 pin-PLCC socket for BYTE-WIDE over 1M bit EPROM.  
ADP-PLCC-51 : #1 for 20 pin PLCC PAL.  
ADP-731 : #2 for 28 pin PLCC PAL. N.C. pins are 1, 8, 15, 22.  
ADP-532 : #3 for 28 pin PLCC PAL. N.C. pins are 5, 8, 11, 19.  
ADP-451 : for MPU 8748/49/41, 8751 series. N.C. pins are 1, 12, 23, 34.  
ADP-ATV2500Y : for SIGNETICS 87C751/752.  
ADP-N3001 : for SIGNETICS 87C552 PLCC.  
ADP-8M1 : for SIGNETICS 87C451 PLCC.  
ADP-48701 : for ATMEL ATV2500.  
ADP-PL5100 : for TOSHIBA over 8M BIT EPROM, N3001-008/016, THA16P0100, TC574200D, INTEL: 27C400, SAMSUNG: KM23C4100.  
ADP-PLH5473 : DRAM MODULE TESTER for SIP/SIMM 41256\*8, 41256\*9, 411000\*8, 411000\*9.  
ADP-TICPAL : for MOTOROLA 68701/4.  
ADP-Z86E08 : for SIGNETICS PL5101.  
ADP-1210 : for SIGNETICS PLH5473.  
ADP-TMS320E : for TI TICPAL 16L8-55/R4-55/R6-55/R8-55.  
ADP-26CV16 : for ZILOG Z86E08.  
ADP-MAX : for ALTECA EP1200, EP1210.  
ADP-48HC705 : for TI TMS320E25.  
ADP-48HC711 : for LATTICE GAL26CV12/B, AMD PALCE26V12, PALCE26V12/4, PALCE24V10.  
ADP-PICT6 : for ALTECA EPMS016, EPMS032.  
ADP-MACH : for MOTOROLA MC68HC705CB. (mask 0867H, 1867H, 844S, C11C)  
ADP-43705 : for MOTOROLA MC68HC711K4.  
ADP-PSD301 : for MICROCHIP PIC16C54/55/55/57.  
ADP-UPD75P008 : for AMD MACH110, MACH210.  
ADP-EP325 : for HITACHI HD63705V0, HD637A05V0, HD637B05V0.  
ADP-5AC324 : for VLSI PSD301.  
ADP-8796PLCC : for NEC UPD75P008.  
ADP-EP32A-PLCC : for general EPROM from 2716 to 27512, 32-pin BYTE-WIDE 1M, 2M, 4M, 8M BIT EPROM. 4 sockets. special split/separate programming modes.  
ADP-EP32B-PLCC : for INTEL 5AC324.  
ADP-EP40-PLCC : for NEC UPD75P108, UPD75P116.  
ADP-EP32A-PLCC : for INTEL 8796BH, 8798, DIP-type, 8796BH, 8797BH, 8797JF, 87C196KB, 87C196KC, PLCC-type.  
ADP-EP32B-PLCC : for all EPROM 32 pin plcc from 2764 to 27512, 4 sockets. N.C. pins are 1, 12, 17, 26.  
ADP-EP40-PLCC : all EPROM 32 pin plcc for BYTE-WIDE over 1M bit, 4 sockets.  
General EPROM 44 pin plcc for WORD-WIDE over 1M bit, 4 sockets. N.C. pins are 1, 13, 23, 33.

#### EXPRO-60 PLCC socket converter

CNV-PLCC-EP512 : DIP-28 to PLCC-32 converter for General EPROM from 2764 to 27512. N.C. pins are 1, 12, 17, 26.  
CNV-PLCC-EP1M32 : DIP-32 to PLCC-32 converter for BYTE-WIDE over 1M bit EPROM.  
CNV-PLCC-EP1M44 : DIP-40 to PLCC-44 converter for WORD-WIDE over 1M bit EPROM. N.C. pins are 1, 13, 23, 33.  
CNV-PLCC-PAL20 : DIP-20 to PLCC-20 converter for 20 pin PLCC PAL.  
CNV-PLCC-PAL28A : DIP-24 to PLCC-28 converter for 28 pin PLCC PAL. N.C. pins are 1, 8, 15, 22.  
CNV-QFP-MPU51 : DIP-40 to QFP-44 converter for MPU 8748/49/41, 8751 series. N.C. pins are 1, 12, 23, 34.  
CNV-PLCC-PAL28B : DIP-24 to PLCC-28 converter for 28 pin PLCC PAL. N.C. pins are 5, 8, 11, 19.  
CNV-PLCC-MPU51 : DIP-40 to PLCC-44 converter for MPU 8748/49/41, 8751 series. N.C. pins are 1, 12, 23, 34.  
CNV-PLCC-EP610 : DIP-24 to PLCC-28 converter for ALTECA, TI, INTEL EP600/610, SC060.  
CNV-PLCC-EP910 : DIP-40 to PLCC-44 converter for ALTECA, TI, INTEL EP900/910, SC090.  
CNV-PLCC-MPU751 : DIP-24 to PLCC-28 converter for SIGNETICS 87C751 PLCC. N.C. pins are 5, 10, 21, 22.

## EXPRO-60 UNIVERSAL PROGRAMMER AND TESTER

### ORDERING INFORMATION:

EXPRO-60 includes: - System adapter card SAC-101A and D-25 cable,  
- Universal Programmer and Tester module  
- All supported devices software and user's manual

### RELEVANT SOFTWARE: (sold separately)

- DASMZ80.EXE : Disassembler for Z8
- DASM85.EXE : Disassembler for 8085
- DASM48.EXE : Disassembler for 8048
- DASM51.EXE : Disassembler for 8051
- DASM09.EXE : Disassembler for 6809
- DASM11.EXE : Disassembler for 68HC11

U.K. Agents for Sunshine Electronics Co Ltd:  
**CITADEL PRODUCTS LTD**  
50 High Street, Edgware, Middx. HA8 7EP UK

Tel: 081 951 1848/9  
Fax: 081 951 5857

