

# 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, EEPROM, Serial PROM, BPROM, MPU, PLD, EPLD, PEEL, GAL, EPL...etc. with less than 40-Pin. Once you apply our expansion

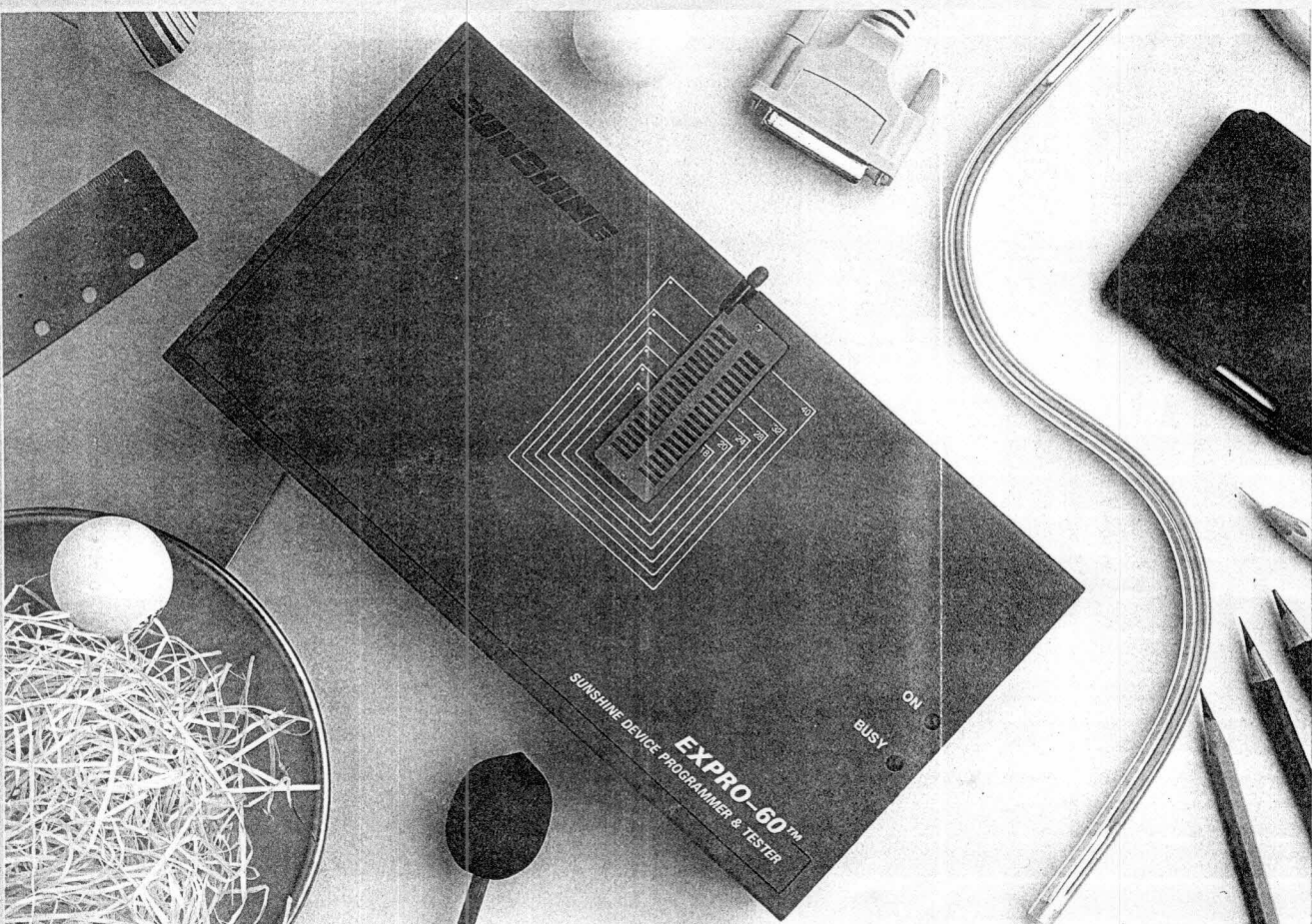
adapters or PLCC socket converters, ICs can also be processed up to 68-Pin. EXPRO-60's software is based on SUNSHINE's long-term experience in programming and our customers' precious suggestions. Its powerful and efficient function is exceedingly user friendly. The advanced software updates enable us 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** *Chadal*

**PC-82**



**SUNSHINE**

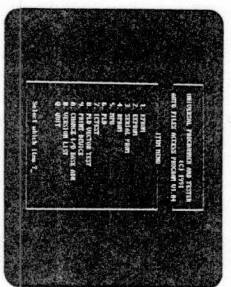
# AUTO FILE ACCESS PROGRAM

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, BPPROM, PLD, EPID, 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.

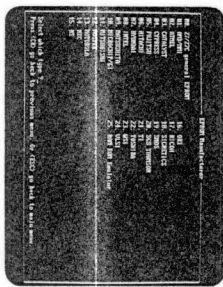
## Enhanced Device Drive File

Auxiliary functions:

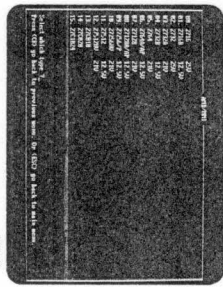
1. DOS SHELL: user can enter DOS and operate other files under DOS environment.
2. LOAD and SAVE: directly down-load user's BIN or JEDEC file to PC buffer or up-load the file from buffer to disk for next use.
3. Directly display buffer contents in BIN or JEDEC format on screen for reference.
4. Full 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.



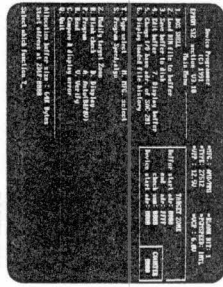
ACCESS



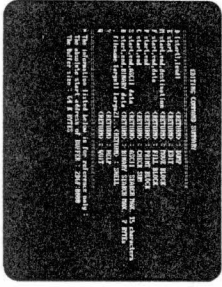
MFR



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.

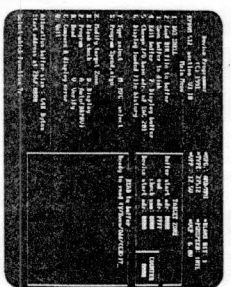
## PLD VECTOR TEST

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:

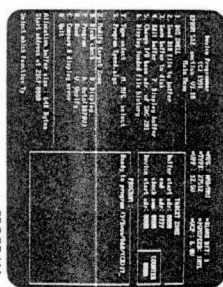
|                       |                               |
|-----------------------|-------------------------------|
| 0: apply low          | N: apply power                |
| 1: apply hi           | X: don't care                 |
| H: desired hi output  | C: apply positive clock pulse |
| L: desired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

## IC TEST

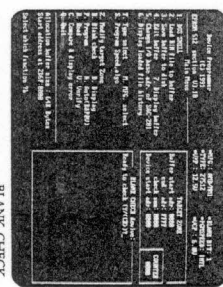
This function covers most TTL 74/54, CMOS 40/45, DRAM and SRAM testing libraries. It can test as many as 300 different ICs and the library is expanding. Next to the main function it down-loads, up-loads user's test vector file; edits test vector, function test and loop test; it can even print out the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



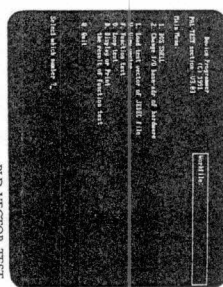
READ



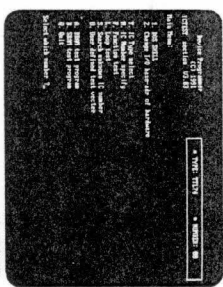
PROGRAM



BLANK CHECK



PLD VECTOR TEST



IC TESTER

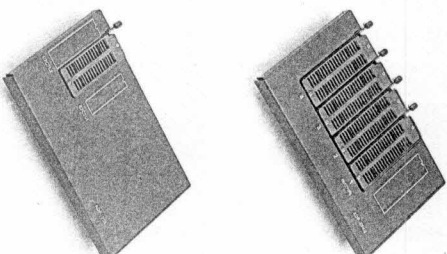
responding test vector. It is our aim to enable the user to have powerful functions at a low cost.

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### 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.



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### 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) × 142 mm (W) × 45 mm (H)

Package size : 310 mm (L) × 290 mm (W) × 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)

- DASM280.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



\* : NEED EXPANSION ADAPTOR

- : NEED EXPANSION ADAPTOR.

# EXPLO-60 DEVICE LIST

| 7/11/91 | 4 OF 5 | EXPLO-60 |
|---------|--------|----------|
| AMD/MI: | 2716   | 2732     |
| 2716    | 2716A  | 2732A    |
| 2716A   | 2716B  | 2732B    |
| 2716B   | 2716C  | 2732C    |
| 2716C   | 2716D  | 2732D    |
| 2716D   | 2716E  | 2732E    |
| 2716E   | 2716F  | 2732F    |
| 2716F   | 2716G  | 2732G    |
| 2716G   | 2716H  | 2732H    |
| 2716H   | 2716I  | 2732I    |
| 2716I   | 2716J  | 2732J    |
| 2716J   | 2716K  | 2732K    |
| 2716K   | 2716L  | 2732L    |
| 2716L   | 2716M  | 2732M    |
| 2716M   | 2716N  | 2732N    |
| 2716N   | 2716O  | 2732O    |
| 2716O   | 2716P  | 2732P    |
| 2716P   | 2716Q  | 2732Q    |
| 2716Q   | 2716R  | 2732R    |
| 2716R   | 2716S  | 2732S    |
| 2716S   | 2716T  | 2732T    |
| 2716T   | 2716U  | 2732U    |
| 2716U   | 2716V  | 2732V    |
| 2716V   | 2716W  | 2732W    |
| 2716W   | 2716X  | 2732X    |
| 2716X   | 2716Y  | 2732Y    |
| 2716Y   | 2716Z  | 2732Z    |
| 2716Z   | 2716AA | 2732AA   |
| 2716AA  | 2716AB | 2732AB   |
| 2716AB  | 2716AC | 2732AC   |
| 2716AC  | 2716AD | 2732AD   |
| 2716AD  | 2716AE | 2732AE   |
| 2716AE  | 2716AF | 2732AF   |
| 2716AF  | 2716AG | 2732AG   |
| 2716AG  | 2716AH | 2732AH   |
| 2716AH  | 2716AI | 2732AI   |
| 2716AI  | 2716AJ | 2732AJ   |
| 2716AJ  | 2716AK | 2732AK   |
| 2716AK  | 2716AL | 2732AL   |
| 2716AL  | 2716AM | 2732AM   |
| 2716AM  | 2716AN | 2732AN   |
| 2716AN  | 2716AO | 2732AO   |
| 2716AO  | 2716AP | 2732AP   |
| 2716AP  | 2716AQ | 2732AQ   |
| 2716AQ  | 2716AR | 2732AR   |
| 2716AR  | 2716AS | 2732AS   |
| 2716AS  | 2716AT | 2732AT   |
| 2716AT  | 2716AU | 2732AU   |
| 2716AU  | 2716AV | 2732AV   |
| 2716AV  | 2716AW | 2732AW   |
| 2716AW  | 2716AX | 2732AX   |
| 2716AX  | 2716AY | 2732AY   |
| 2716AY  | 2716AZ | 2732AZ   |
| 2716AZ  | 2716BA | 2732BA   |
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| 2716BB  | 2716BC | 2732BC   |
| 2716BC  | 2716BD | 2732BD   |
| 2716BD  | 2716BE | 2732BE   |
| 2716BE  | 2716BF | 2732BF   |
| 2716BF  | 2716BG | 2732BG   |
| 2716BG  | 2716BH | 2732BH   |
| 2716BH  | 2716BI | 2732BI   |
| 2716BI  | 2716BJ | 2732BJ   |
| 2716BJ  | 2716BK | 2732BK   |
| 2716BK  | 2716BL | 2732BL   |
| 2716BL  | 2716BM | 2732BM   |
| 2716BM  | 2716BN | 2732BN   |
| 2716BN  | 2716BO | 2732BO   |
| 2716BO  | 2716BP | 2732BP   |
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| 2716II  | 2716IJ | 2732IJ   |
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| 2716IZ  | 2716JA | 2732JA   |
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| 2716JK  | 2716JL | 2732JL   |
| 2716JL  | 2716JM | 2732JM   |
| 2716JM  | 2716JN | 2732JN   |
| 2716JN  | 2716JO | 2732JO   |
| 2716JO  | 2716JP | 2732JP   |
| 2716JP  | 2716JQ | 2732JQ   |
| 2716JQ  | 2716JR | 2732JR   |
| 2716JR  | 2716JS | 2732JS   |
| 2716JS  | 2716JT | 2732JT   |
| 2716JT  | 2716JU | 2732JU   |
| 2716JU  | 2716JV | 2732JV   |
| 2716JV  | 2716JW | 2732JW   |
| 2716JW  | 2716JX | 2732JX   |
| 2716JX  | 2716JY | 2732JY   |
| 2716JY  | 2716JZ | 2732JZ   |
| 2716JZ  | 2716KA | 2732KA   |
| 2716KA  | 2716KB | 2732KB   |
| 2716KB  | 2716KC | 2732KC   |
| 2716KC  | 2716KD | 2732KD   |
| 2716KD  | 2716KE | 2732KE   |
| 2716KE  | 2716KF | 2732KF   |
| 2716KF  | 2716KG | 2732KG   |
| 2716KG  | 2716KH | 2732KH   |
| 2716KH  | 2716KI | 2732KI   |
| 2716KI  | 2716KJ | 2732KJ   |
| 2716KJ  | 2716KK | 2732KK   |
| 2716KK  | 2716KL | 2732KL   |
| 2716KL  | 2716KM | 2732KM   |
| 2716KM  | 2716KN | 2732KN   |
| 2716KN  | 2716KO | 2732KO   |
| 2716KO  | 2716KP | 2732KP   |
| 2716KP  | 2716KQ | 2732KQ   |
| 2716KQ  | 2716KR | 2732KR   |
| 2716KR  | 2716KS | 2732KS   |
| 2716KS  | 2716KT | 2732KT   |
| 2716KT  | 2716KU | 2732KU   |
| 2716KU  | 2716KV | 2732KV   |
| 2716KV  | 2716KW | 2732KW   |
| 2716KW  | 2716KX | 2732KX   |
| 2716KX  | 2716KY | 2732KY   |
| 2716KY  | 2716KZ | 2732KZ   |
| 2716KZ  | 2716LA | 2732LA   |
| 2716LA  | 2716LB | 2732LB   |
| 2716LB  | 2716LC | 2732LC   |
| 2716LC  | 2716LD | 2732LD   |
| 2716LD  | 2716LE | 2732LE   |
| 2716LE  | 2716LF | 2732LF   |
| 2716LF  | 2716LG | 2732LG   |
| 2716LG  | 2716LH | 2732LH   |
| 2716LH  | 2716LI | 2732LI   |
| 2716LI  | 2716LJ | 2732LJ   |
| 2716LJ  | 2716LK | 2732LK   |
| 2716LK  | 2716LL | 2732LL   |
| 2716LL  | 2716LM | 2732LM   |
| 2716LM  | 2716LN | 2732LN   |
| 2716LN  | 2716LO | 2732LO   |
| 2716LO  | 2716LP | 2732LP   |
| 2716LP  | 2716LQ | 2732LQ   |
| 2716LQ  | 2716LR | 2732LR   |
| 2716LR  | 2716LS | 2732LS   |
| 2716LS  | 2716LT | 2732LT   |
| 2716LT  | 2716LU | 2732LU   |
| 2716LU  | 2716LV | 2732LV   |
| 2716LV  | 2716LW | 2732LW   |
| 2716LW  | 2716LX | 2732LX   |
| 2716LX  | 2716LY |          |



**BPR0M**

[illegible]

14

|            |      |      |      |      |      |        |      |      |      |
|------------|------|------|------|------|------|--------|------|------|------|
| TT14_L1B   | 0001 | 0002 | 0003 | 0004 | 0005 | 0006   | 0007 | 0008 | 0009 |
| 0000       | 0001 | 0002 | 0003 | 0004 | 0005 | 0006   | 0007 | 0008 | 0009 |
| 0010       | 0011 | 0012 | 0013 | 0014 | 0015 | 0016   | 0017 | 0018 | 0019 |
| 0020       | 0021 | 0022 | 0023 | 0024 | 0025 | 0026   | 0027 | 0028 | 0029 |
| 0030       | 0031 | 0032 | 0033 | 0034 | 0035 | 0036   | 0037 | 0038 | 0039 |
| 0040       | 0041 | 0042 | 0043 | 0044 | 0045 | 0046   | 0047 | 0048 | 0049 |
| 0050       | 0051 | 0052 | 0053 | 0054 | 0055 | 0056   | 0057 | 0058 | 0059 |
| 0060       | 0061 | 0062 | 0063 | 0064 | 0065 | 0066   | 0067 | 0068 | 0069 |
| 0070       | 0071 | 0072 | 0073 | 0074 | 0075 | 0076   | 0077 | 0078 | 0079 |
| 0080       | 0081 | 0082 | 0083 | 0084 | 0085 | 0086   | 0087 | 0088 | 0089 |
| 0090       | 0091 | 0092 | 0093 | 0094 | 0095 | 0096   | 0097 | 0098 | 0099 |
| 0100       | 0101 | 0102 | 0103 | 0104 | 0105 | 0106   | 0107 | 0108 | 0109 |
| 0110       | 0111 | 0112 | 0113 | 0114 | 0115 | 0116   | 0117 | 0118 | 0119 |
| 0120       | 0121 | 0122 | 0123 | 0124 | 0125 | 0126   | 0127 | 0128 | 0129 |
| 0130       | 0131 | 0132 | 0133 | 0134 | 0135 | 0136   | 0137 | 0138 | 0139 |
| 0140       | 0141 | 0142 | 0143 | 0144 | 0145 | 0146   | 0147 | 0148 | 0149 |
| 0150       | 0151 | 0152 | 0153 | 0154 | 0155 | 0156   | 0157 | 0158 | 0159 |
| 0160       | 0161 | 0162 | 0163 | 0164 | 0165 | 0166   | 0167 | 0168 | 0169 |
| 0170       | 0171 | 0172 | 0173 | 0174 | 0175 | 0176   | 0177 | 0178 | 0179 |
| 0180       | 0181 | 0182 | 0183 | 0184 | 0185 | 0186   | 0187 | 0188 | 0189 |
| 0190       | 0191 | 0192 | 0193 | 0194 | 0195 | 0196   | 0197 | 0198 | 0199 |
| 0200       | 0201 | 0202 | 0203 | 0204 | 0205 | 0206   | 0207 | 0208 | 0209 |
| 0210       | 0211 | 0212 | 0213 | 0214 | 0215 | 0216   | 0217 | 0218 | 0219 |
| 0220       | 0221 | 0222 | 0223 | 0224 | 0225 | 0226   | 0227 | 0228 | 0229 |
| 0230       | 0231 | 0232 | 0233 | 0234 | 0235 | 0236   | 0237 | 0238 | 0239 |
| 0240       | 0241 | 0242 | 0243 | 0244 | 0245 | 0246   | 0247 | 0248 | 0249 |
| 0250       | 0251 | 0252 | 0253 | 0254 | 0255 | 0256   | 0257 | 0258 | 0259 |
| 0260       | 0261 | 0262 | 0263 | 0264 | 0265 | 0266   | 0267 | 0268 | 0269 |
| 0270       | 0271 | 0272 | 0273 | 0274 | 0275 | 0276   | 0277 | 0278 | 0279 |
| 0280       | 0281 | 0282 | 0283 | 0284 | 0285 | 0286   | 0287 | 0288 | 0289 |
| 0290       | 0291 | 0292 | 0293 | 0294 | 0295 | 0296   | 0297 | 0298 | 0299 |
| 0300       | 0301 | 0302 | 0303 | 0304 | 0305 | 0306   | 0307 | 0308 | 0309 |
| 0310       | 0311 | 0312 | 0313 | 0314 | 0315 | 0316   | 0317 | 0318 | 0319 |
| 0320       | 0321 | 0322 | 0323 | 0324 | 0325 | 0326   | 0327 | 0328 | 0329 |
| 0330       | 0331 | 0332 | 0333 | 0334 | 0335 | 0336   | 0337 | 0338 | 0339 |
| 0340       | 0341 | 0342 | 0343 | 0344 | 0345 | 0346   | 0347 | 0348 | 0349 |
| 0350       | 0351 | 0352 | 0353 | 0354 | 0355 | 0356   | 0357 | 0358 | 0359 |
| 0360       | 0361 | 0362 | 0363 | 0364 | 0365 | 0366   | 0367 | 0368 | 0369 |
| 0370       | 0371 | 0372 | 0373 | 0374 | 0375 | 0376   | 0377 | 0378 | 0379 |
| 0380       | 0381 | 0382 | 0383 | 0384 | 0385 | 0386   | 0387 | 0388 | 0389 |
| 0390       | 0391 | 0392 | 0393 | 0394 | 0395 | 0396   | 0397 | 0398 | 0399 |
| 0400       | 0401 | 0402 | 0403 | 0404 | 0405 | 0406   | 0407 | 0408 | 0409 |
| 0410       | 0411 | 0412 | 0413 | 0414 | 0415 | 0416   | 0417 | 0418 | 0419 |
| 0420       | 0421 | 0422 | 0423 | 0424 | 0425 | 0426   | 0427 | 0428 | 0429 |
| 0430       | 0431 | 0432 | 0433 | 0434 | 0435 | 0436   | 0437 | 0438 | 0439 |
| 0440       | 0441 | 0442 | 0443 | 0444 | 0445 | 0446   | 0447 | 0448 | 0449 |
| 0450       | 0451 | 0452 | 0453 | 0454 | 0455 | 0456   | 0457 | 0458 | 0459 |
| 0460       | 0461 | 0462 | 0463 | 0464 | 0465 | 0466   | 0467 | 0468 | 0469 |
| 0470       | 0471 | 0472 | 0473 | 0474 | 0475 | 0476   | 0477 | 0478 | 0479 |
| 0480       | 0481 | 0482 | 0483 | 0484 | 0485 | 0486   | 0487 | 0488 | 0489 |
| 0490       | 0491 | 0492 | 0493 | 0494 | 0495 | 0496   | 0497 | 0498 | 0499 |
| 0500       | 0501 | 0502 | 0503 | 0504 | 0505 | 0506   | 0507 | 0508 | 0509 |
| 0510       | 0511 | 0512 | 0513 | 0514 | 0515 | 0516   | 0517 | 0518 | 0519 |
| 0520       | 0521 | 0522 | 0523 | 0524 | 0525 | 0526   | 0527 | 0528 | 0529 |
| 0530       | 0531 | 0532 | 0533 | 0534 | 0535 | 0536   | 0537 | 0538 | 0539 |
| 0540       | 0541 | 0542 | 0543 | 0544 | 0545 | 0546   | 0547 | 0548 | 0549 |
| 0550       | 0551 | 0552 | 0553 | 0554 | 0555 | 0556   | 0557 | 0558 | 0559 |
| 0560       | 0561 | 0562 | 0563 | 0564 | 0565 | 0566   | 0567 | 0568 | 0569 |
| CMOS40_L1B | 0600 | 0601 | 0602 | 0603 | 0604 | 0605   | 0606 | 0607 | 0608 |
| 0600       | 0601 | 0602 | 0603 | 0604 | 0605 | 0606   | 0607 | 0608 | 0609 |
| 0610       | 0611 | 0612 | 0613 | 0614 | 0615 | 0616   | 0617 | 0618 | 0619 |
| 0620       | 0621 | 0622 | 0623 | 0624 | 0625 | 0626   | 0627 | 0628 | 0629 |
| 0630       | 0631 | 0632 | 0633 | 0634 | 0635 | 0636   | 0637 | 0638 | 0639 |
| 0640       | 0641 | 0642 | 0643 | 0644 | 0645 | 0646   | 0647 | 0648 | 0649 |
| 0650       | 0651 | 0652 | 0653 | 0654 | 0655 | 0656   | 0657 | 0658 | 0659 |
| 0660       | 0661 | 0662 | 0663 | 0664 | 0665 | 0666   | 0667 | 0668 | 0669 |
| 0670       | 0671 | 0672 | 0673 | 0674 | 0675 | 0676   | 0677 | 0678 | 0679 |
| 0680       | 0681 | 0682 | 0683 | 0684 | 0685 | 0686   | 0687 | 0688 | 0689 |
| 0690       | 0691 | 0692 | 0693 | 0694 | 0695 | 0696   | 0697 | 0698 | 0699 |
| CMOS45_L1B | 0700 | 0701 | 0702 | 0703 | 0704 | 0705   | 0706 | 0707 | 0708 |
| 0700       | 0701 | 0702 | 0703 | 0704 | 0705 | 0706   | 0707 | 0708 | 0709 |
| 0710       | 0711 | 0712 | 0713 | 0714 | 0715 | 0716   | 0717 | 0718 | 0719 |
| 0720       | 0721 | 0722 | 0723 | 0724 | 0725 | 0726   | 0727 | 0728 | 0729 |
| 0730       | 0731 | 0732 | 0733 | 0734 | 0735 | 0736   | 0737 | 0738 | 0739 |
| 0740       | 0741 | 0742 | 0743 | 0744 | 0745 | 0746   | 0747 | 0748 | 0749 |
| 0750       | 0751 | 0752 | 0753 | 0754 | 0755 | 0756   | 0757 | 0758 | 0759 |
| 0760       | 0761 | 0762 | 0763 | 0764 | 0765 | 0766   | 0767 | 0768 | 0769 |
| 0770       | 0771 | 0772 | 0773 | 0774 | 0775 | 0776   | 0777 | 0778 | 0779 |
| 0780       | 0781 | 0782 | 0783 | 0784 | 0785 | 0786   | 0787 | 0788 | 0789 |
| 0790       | 0791 | 0792 | 0793 | 0794 | 0795 | 0796   | 0797 | 0798 | 0799 |
| 0800       | 0801 | 0802 | 0803 | 0804 | 0805 | 0806   | 0807 | 0808 | 0809 |
| 0810       | 0811 | 0812 | 0813 | 0814 | 0815 | 0816   | 0817 | 0818 | 0819 |
| 0820       | 0821 | 0822 | 0823 | 0824 | 0825 | 0826   | 0827 | 0828 | 0829 |
| 0830       | 0831 | 0832 | 0833 | 0834 | 0835 | 0836   | 0837 | 0838 | 0839 |
| 0840       | 0841 | 0842 | 0843 | 0844 | 0845 | 0846   | 0847 | 0848 | 0849 |
| 0850       | 0851 | 0852 | 0853 | 0854 | 0855 | 0856   | 0857 | 0858 | 0859 |
| 0860       | 0861 | 0862 | 0863 | 0864 | 0865 | 0866   | 0867 | 0868 | 0869 |
| 0870       | 0871 | 0872 | 0873 | 0874 | 0875 | 0876   | 0877 | 0878 | 0879 |
| 0880       | 0881 | 0882 | 0883 | 0884 | 0885 | 0886   | 0887 | 0888 | 0889 |
| 0890       | 0891 | 0892 | 0893 | 0894 | 0895 | 0896   | 0897 | 0898 | 0899 |
| 0900       | 0901 | 0902 | 0903 | 0904 | 0905 | 0906   | 0907 | 0908 | 0909 |
| 0910       | 0911 | 0912 | 0913 | 0914 | 0915 | 0916   | 0917 | 0918 | 0919 |
| 0920       | 0921 | 0922 | 0923 | 0924 | 0925 | 0926   | 0927 | 0928 | 0929 |
| 0930       | 0931 | 0932 | 0933 | 0934 | 0935 | 0936   | 0937 | 0938 | 0939 |
| 0940       | 0941 | 0942 | 0943 | 0944 | 0945 | 0946   | 0947 | 0948 | 0949 |
| 0950       | 0951 | 0952 | 0953 | 0954 | 0955 | 0956   | 0957 | 0958 | 0959 |
| 0960       | 0961 | 0962 | 0963 | 0964 | 0965 | 0966   | 0967 | 0968 | 0969 |
| 0970       | 0971 | 0972 | 0973 | 0974 | 0975 | 0976   | 0977 | 0978 | 0979 |
| 0980       | 0981 | 0982 | 0983 | 0984 | 0985 | 0986   | 0987 | 0988 | 0989 |
| 0990       | 0991 | 0992 | 0993 | 0994 | 0995 | 0996   | 0997 | 0998 | 0999 |
| DRAM       | 1000 | 1001 | 1002 | 1003 | 1004 | 1005   | 1006 | 1007 | 1008 |
| 1000       | 1001 | 1002 | 1003 | 1004 | 1005 | 1006   | 1007 | 1008 | 1009 |
| 1010       | 1011 | 1012 | 1013 | 1014 | 1015 | 1016   | 1017 | 1018 | 1019 |
| 1020       | 1021 | 1022 | 1023 | 1024 | 1025 | 1026   | 1027 | 1028 | 1029 |
| 1030       | 1031 | 1032 | 1033 | 1034 | 1035 | 1036   | 1037 | 1038 | 1039 |
| 1040       | 1041 | 1042 | 1043 | 1044 | 1045 | 1046   | 1047 | 1048 | 1049 |
| 1050       | 1051 | 1052 | 1053 | 1054 | 1055 | 1056   | 1057 | 1058 | 1059 |
| 1060       | 1061 | 1062 | 1063 | 1064 | 1065 | 1066   | 1067 | 1068 | 1069 |
| 1070       | 1071 | 1072 | 1073 | 1074 | 1075 | 1076   | 1077 | 1078 | 1079 |
| 1080       | 1081 | 1082 | 1083 | 1084 | 1085 | 1086   | 1087 | 1088 | 1089 |
| 1090       | 1091 | 1092 | 1093 | 1094 | 1095 | 1096   | 1097 | 1098 | 1099 |
| 1100       | 1101 | 1102 | 1103 | 1104 | 1105 | 1106   | 1107 | 1108 | 1109 |
| 1110       | 1111 | 1112 | 1113 | 1114 | 1115 | 1116   | 1117 | 1118 | 1119 |
| 1120       | 1121 | 1122 | 1123 | 1124 | 1125 | 1126   | 1127 | 1128 | 1129 |
| 1130       | 1131 | 1132 | 1133 | 1134 | 1135 | 1136   | 1137 | 1138 | 1139 |
| 1140       | 1141 | 1142 | 1143 | 1144 | 1145 | 1146   | 1147 | 1148 | 1149 |
| 1150       | 1151 | 1152 | 1153 | 1154 | 1155 | 1156   | 1157 | 1158 | 1159 |
| 1160       | 1161 | 1162 | 1163 | 1164 | 1165 | 1166   | 1167 | 1168 | 1169 |
| 1170       | 1171 | 1172 | 1173 | 1174 | 1175 | 1176   | 1177 | 1178 | 1179 |
| 1180       | 1181 | 1182 | 1183 | 1184 | 1185 | 1186   | 1187 | 1188 | 1189 |
| 1190       | 1191 | 1192 | 1193 | 1194 | 1195 | 1196   | 1197 | 1198 | 1199 |
| 1200       | 1201 | 1202 | 1203 | 1204 | 1205 | 1206   | 1207 | 1208 | 1209 |
| 1210       | 1211 | 1212 | 1213 | 1214 | 1215 | 1216   | 1217 | 1218 | 1219 |
| 1220       | 1221 | 1222 | 1223 | 1224 | 1225 | 1226   | 1227 | 1228 | 1229 |
| 1230       | 1231 | 1232 | 1233 | 1234 | 1235 | 1236   | 1237 | 1238 | 1239 |
| 1240       | 1241 | 1242 | 1243 | 1244 | 1245 | 1246   | 1247 | 1248 | 1249 |
| 1250       | 1251 | 1252 | 1253 | 1254 | 1255 | 1256   | 1257 | 1258 | 1259 |
| 1260       | 1261 | 1262 | 1263 | 1264 | 1265 | 1266   | 1267 | 1268 | 1269 |
| 1270       | 1271 | 1272 | 1273 | 1274 | 1275 | 1276   | 1277 | 1278 | 1279 |
| 1280       | 1281 | 1282 | 1283 | 1284 | 1285 | 1286   | 1287 | 1288 | 1289 |
| 1290       | 1291 | 1292 | 1293 | 1294 | 1295 | 1296   | 1297 | 1298 | 1299 |
| 1300       | 1301 | 1302 | 1303 | 1304 | 1305 | 1306</ |      |      |      |

## EXPRO-60 Expansion Adaptors

[illegible]

**EXPRO-60 PLCC socket converter**

|                 |                                                                                            |
|-----------------|--------------------------------------------------------------------------------------------|
| CNV-PLCC-EF5112 | DP-28 to P1CC 32 converter for BYTE EPROM from 2764 to 27512. N.C. pins one 1, 12, 17, 26. |
| CNV-PLCC-EF1M2  | DP-28 to P1CC 32 converter for BYTE WIDE over IM, bit EPROM.                               |
| CNV-PLCC-EF1M4  | DP-30 to P1CC 40 converter for WORD WIDE over IM, bit EPROM. N.C. pins one 1, 13, 23, 33.  |
| CNV-PLCC-P1A20  | DP-20 to P1CC 20 converter for 28 pin PLCC PAL.                                            |
| CNV-PLCC-P1A28  | DP-20 to P1CC 28 converter for 28 pin PLCC PAL.                                            |
| CNV-OPR-MPU54   | DP-24 to P1CC 24 converter for 28 pin PLCC PAL. N.C. series 1, 8, 15, 22.                  |
| CNV-PLCC-AU1A8B | DP-24 to P1CC 24 converter for ALTEP 8748/69/41, 8751 series. N.C. pins one 1, 12, 23, 34. |
| CNV-PLCC-MP151  | DP-24 to P1CC 24 converter for MPU 8748/69/41, 8751 series. N.C. pins one 1, 12, 23, 34.   |
| CNV-PLCC-EF610  | DP-24 to P1CC 24 converter for ALTEP 8748/69/41, 8751 series. N.C. pins one 1, 12, 23, 34. |
| CNV-PLCC-EF710  | DP-24 to P1CC 24 converter for ALTEP 8748/69/41, 8751 series. N.C. pins one 1, 12, 23, 34. |
| CNV-PLCC-MPU751 | DP-24 to P1CC 28 converter for SILENTS 87CZ51 EPROM. N.C. pins one 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)**

- DASM280.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

**CP** *Plus*

