IN-CIRCUIT DIGITAL IC TESTER

BILL GREEN

Three BASIC listings, some corrections, and more!

Part 3

DUE TO SPACE LIMitiations, we were unable to publish the three BASIC listings mentioned in Part 2 of this series. Those are shown on this page.

Corrections

We have a couple of corrections to the first part of the article (November, 1987). First of all, the end of the third paragraph on page 48 should read, "When installing the test clip on the cable, orient the clip so that the connector on the end of the cable connects to the side of the test clip with pin 1 on it. When using a clip with less than twenty-four pins, align the connectors so that the pins on the right end of the clip—the end furthest from pin 1—are even with the right end of the connectors."

Second, on page 48 the next to last paragraph should read, "For example, ERROR PN01 GRP 1 EXP/RD 0100 would indicate a problem with pin 1 in test group 1; a "1" was expected where a "0" was read.

New kit

Alpha Electronics (P.O. Box 1005, Merritt Island, FL 32952-1005, 305-453-3534) has decided to offer a minimum parts kit for the IC Tester. It includes the PC boards, the nonvolatile RAM with code, and the three custom IC's—75498, 75499, and 75500. The cost is $140.00, postpaid in the U.S.; FL residents must add appropriate sales tax. **R-E**

LISTING 3

```
000 'THIS PROGRAM (ENTERTST.BAS)
015 'ALLOWS GENERATION OF TEST FILES
020 'ON AN EXTERNAL COMPUTER
025 'FOR TRANSFER TO THE IC TESTER.
030 'by ALPHA Electronics Corporation,
035 'PO Box 1005, Merritt Island, FL. 32952
100 CLS
105 PRINT"ENTER INFORMATION AS PROMPTED FOR GENERATING 'part number.FIL'"
110 DIM A$(256):DIM TF$(8):GRP=1
120 FOR X=1 TO 256:A$(X)="00":NEXT:PRINT 'initialize array to 0
130 PRINT"PART NUMBER MUST BE HEX (0-9, A-F), 8 DIGITS MAX."
140 INPUT"ENTER PART NUMBER ";TF$
150 IF TF$="" OR LEN(TF$)>8 THEN  140
160 IF LEN(TF$)<8 THEN TF$=TF$+"0":GOTO 160 'stretch to 8 digits
170 PRINT"NUMBER OF PINS MUST BE EVEN NUMBER(S) FROM 4 TO 24"
180 INPUT"ENTER NUMBER OF PINS ";NP$
190 IF NP$="" THEN 180:IF LEN(NP$)>2 THEN 180
200 IF LEN(NP$)<2 THEN NP$="0"+NP$ 'stretch to 2 digits
210 NP=VAL(NP$):OFFSET=(24-NP)/2 'offset when less than 24 pins
220 IF NP<4 OR NP>24 THEN 180
230 NP=NP-2:IF NP=0 THEN 250
240 IF NP=-1 THEN 180 ELSE 230
250 NP=VAL(NP$):X=OFFSET+1
260 PRINT"ENTERING DATA FOR GROUP ";GRP:PN=1
270 PRINT"FUNCTION MUST BE I,O,D OR X"
280 PRINT"ENTER FUNCTION OF PIN  ";PN;:INPUT;PF$:PRINT
290 IF PF$="I" THEN A$(X)="02":GOTO 340
300 IF PF$="O" THEN A$(X)="01":GOTO 340
310 IF PF$="D" THEN A$(X)="03":GOTO 340
320 IF PF$="X" THEN A$(X)="F0":PD$="00":GOTO 350
330 GOTO 270
340 PRINT"ENTER HEX DATA FOR PIN ";PN;:INPUT;PD$:PRINT
350 A$(X+24)=PD$
360 X=X+1:PN=PN+1:IF PN<NP+1 GOTO 280
370 GRP=GRP+1:IF GRP=6 THEN 420
380 INPUT"DO YOU WISH TO ENTER ANOTHER GROUP (Y/N) ";Q$
390 IF Q$="N" OR Q$="n" THEN 420
400 IF Q$="Y" OR Q$="y" THEN 410 ELSE 380
410 X=(OFFSET+1)+((GRP-1)*48):CLS:GOTO 260
420 CLS:PRINT"TEST DATA FOR ";TF$;" HAS BEEN ENTERED.  ";
425 PRINT"CREATING FILE ";TF$+".FIL"
430 FOR N=1 TO 8:TF$(N)=MID$(TF$,N,1):NEXT
440 FOR N=1 TO 8:PART$=PART$+"0"+TF$(N):NEXT 'stretch to 16 ASCII digits
450 PINS$="0"+LEFT$(NP$,1)+"0"+RIGHT$(NP$,1) 'stretch to 4 ASCII digits
460 OPEN TF$+".FIL" AS 1 LEN=512
470 FIELD 1, 480 AS B$,16 AS BPART$,4 AS BPINS$,12 AS BFILL$
480 C$=""
490 FOR X=1 TO 240
500 C$=C$+A$(X)
510 NEXT
520 LSET B$=C$
530 LSET BPART$=PART$
540 LSET BPINS$=PINS$
550 LSET BFILL$="000000000000" 'stretch to 512 bytes
560 PUT 1
570 CLOSE
```

LISTING 1

```
010 'THIS PROGRAM (SENDTEST.BAS)
015 'SENDS TEST FILES TO THE IC TESTER
020 'by ALPHA Electronics Corporation,
025 'PO Box 1005, Merritt Island, FL. 32952
100 INPUT"ENTER NAME OF TEST FILE TO SEND ";TF$
110 IF LEN(TF$)<8 THEN TF$=TF$+"0":GOTO 110
120 PRINT"SENDING ";TF$;" TO COM1"
130 OPEN TF$+".FIL" AS 1 LEN=1
140 FIELD 1, 1 AS B$
150 OPEN "COM1:1200,N,8,2,CS3000,BIN" AS 2 LEN=1
160 FIELD 2, 1 AS C$
170 FOR X=1 TO 512
180 GET 1,X
190 LSET C$=B$
200 PUT 2,1
210 NEXT X
220 CLOSE
```

LISTING 2

```
010 'THIS PROGRAM (RECVTEST.BAS) RECEIVES
015 'TEST FILES FROM THE IC TESTER
020 'by ALPHA Electronics Corporation,
025 'PO Box 1005, Merritt Island FL. 32952
100 INPUT"ENTER NAME OF TEST FILE TO RECEIVE ";TF$
110 IF LEN(TF$)<8 THEN TF$=TF$+"0":GOTO 110
120 PRINT"RECEIVING ";TF$;" FROM COM1"
130 OPEN TF$+".FIL" AS 1 LEN=1
140 FIELD 1, 1 AS B$
150 OPEN "COM1:1200,N,8,2,CS3000,BIN" AS 2 LEN=1
160 FIELD 2, 1 AS C$
170 FOR X=1 TO 512
180 GET 2,1
190 LSET B$=C$
200 PUT 1,X
210 NEXT X
220 CLOSE
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130 OPEN TF$+".FIL" AS 1 LEN=1
140 FIELD 1, 1 AS B$
150 OPEN "COM1:1200,N,8,2,CS3000,BIN" AS 2 LEN=1
160 FIELD 2, 1 AS C$
170 FOR X=1 TO 512
180 GET 1,X
190 LSET C$=B$
200 PUT 2,1
210 NEXT X
220 CLOSE
```

LISTING 2

```
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015 'TEST FILES FROM THE IC TESTER
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100 INPUT"ENTER NAME OF TEST FILE TO RECEIVE ";TF$
110 IF LEN(TF$)<8 THEN TF$=TF$+"0":GOTO 110
120 PRINT"RECEIVING ";TF$;" FROM COM1"
130 OPEN TF$+".FIL" AS 1 LEN=1
140 FIELD 1, 1 AS B$
150 OPEN "COM1:1200,N,8,2,CS3000,BIN" AS 2 LEN=1
160 FIELD 2, 1 AS C$
170 FOR X=1 TO 512
180 GET 2,1
190 LSET B$=C$
200 PUT 1,X
210 NEXT X
220 CLOSE
```