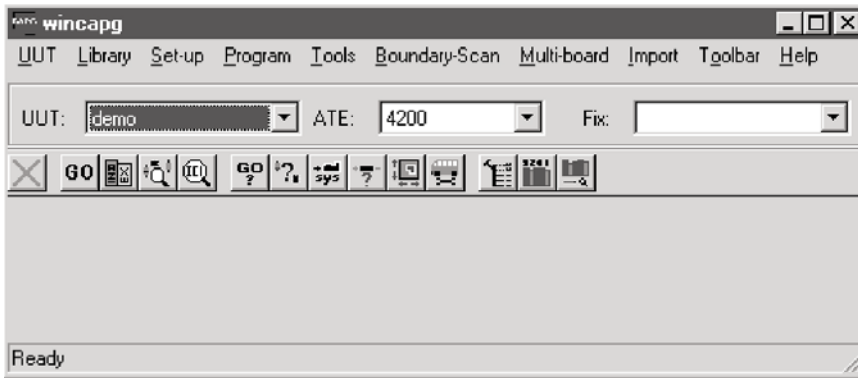


ATE

4200, 5200, 5800 Series Computer Assisted Program Generation

AEROFLEX
A passion for performance.



A software package to provide fixtures and guarded test programs in the shortest possible time

- In-Circuit test program generation software
- Designed for use with Microsoft Windows
- Options for Boundary Scan and Multiboard
- Site License

A special .cb file editor called MkNet is built into CAPG. This can be used to make changes to a .cb file or to create a simple .cb file manually from a circuit diagram and parts list.

The Aeroflex Computer Assisted Program Generation (CAPG) package is designed for the efficient and cost-effective creation of test programs and test fixtures for the Aeroflex range of In-Circuit and MDA test systems. This includes the 4200, 5200 and 5800 In-Circuit system systems.

Ident	Stocked	Type	Phase 1	Phase 2	Phase 3	IC	TY	Lot	Part	Lang 1	Lang 2	Lang 3	Lang 4
C1	pass	100k (capac)	20	Reference		222	000	0	VCC (net)				
C2	cap	10k (resistor)	10	Reference		000	000	0	A2 (net)				
D1	diode					070	570	0	A3 (anode)				
IC1	74LS00					190	720	0	E01 (net)	R1 (net)			
IC2	74LS00					400	020	0	D2 (net)	E02 (net)			
IC3	74LS244					400	200	0	D3 (net)	E03 (net)			
IC4	74LS244					040	300	0	D5 (net)	R06 (net)			
R1	res	100 (resistor)	2	Substance		000	000	0	A1 (net)				
R11	res	100k (resistor)	5	Substance					A1 (net)	R11.2 (net)			
R2	res	10k (resistor)	2	Substance		000	000	0	A1 (net)				
R3	res	1k (resistor)	2	Substance		000	000	0	A2 (net)				
R4	res	100 (resistor)	2	Substance		040	000	0	VCC (net)				
T1	tran	npn (npn or pnp)				290	570	0	A3 (cathode)	A2 (anode)			

PC Platform

CAPG runs on an industry standard PC running a Microsoft Windows Operating system. The software is supplied under a site-license agreement, which allows multiple copies to be installed and used within a single location, helping to reduce the cost of ownership.

CAD Input processing

Using the CAD data is a good starting point for test program development but there are many different CAD systems and file formats available. Rather than limit CAPG to accepting a limited number of input file formats, it uses an Aeroflex file format called .cb as it's input. The .cb file can be created using a number of third party tools, including the popular eM-Test Expert package (previously known as FabMaster) and CAMCAD.

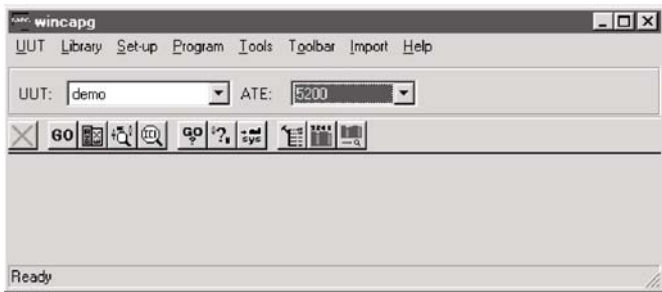
Program generation

CAPG uses the .cb circuit board description file together with an extensive library of device data to create tests for each component. This will include, all passive components (such as resistors, capacitors), semiconductors (diodes, transistors, FET) and active components (Op-Amps, voltage regulators). For In-Circuit systems, tests for board power-up, digital devices and tri-state buses will also be created. These tests are then customised by CAPG to accommodate for tied device pins and the effect of parallel component paths. The resulting "customised" tests are inserted into a skeleton file to create the test program. CAPG makes a full analysis of the circuit and analog and digital guard pins are added to enhance program performance and reduce debugging time.

User configurable resource files are used to accurately describe the hardware configuration of the test system and the required fixture type. This allows a test program to be generated away from the test system, whilst maintaining hardware compatibility with the system. Once the CAPG run is completed, the program can be transferred to the test system ready for final program debugging.

Tester Support

CAPG currently supports the generation of test programs and fixture designs for the 4200 series (4200, 4205, 4210, 4215, 4220, 4230 and 4250), The 5200 series (5200, 5210, 5220) and the 5800 series Analog In-Circuit (AIC). The same basic user interface is used for all tester options; this allows users who are familiar with one tester type to easily transfer their skills to another.



CAPG Optional Features

For the 4200 and 5800 series of test systems there are various optional features that can be purchased that extend the functions of CAPG beyond the generation of basic In-Circuit test programs. These include:

MultiBoard Option (4200 and 5800 series)

This option allows test programs to be created for panels of boards. For example, to test a panel consisting of six identical boards, a single test program is created by CAPG together with a set of fixture information for the complete panel. On the test system, the test program is loaded six times, each copy has a fixed offset applied to the test point numbers. This simplifies program debugging, as only one copy of the test program has to be edited.

Boundary Scan (4200 Series only)

With the CAPG Boundary Scan option, users can create simple In-Circuits for single digital devices that support the IEEE1149.1 Boundary Scan standard. CAPG will process the device Boundary Scan Description Language file (BSDL). Alternatively, if the board has been designed with Boundary Scan test in mind (where a chain of several devices exists), CAPG can create a "Board Level" boundary scan test. This will test the integrity of the scan chain and then perform interconnection tests to find shorted, stuck or open circuit nodes. CAPG is able to use either real physical test probe access or the "virtual" access via the scan chain (where there is no physical access available).

Program migration options (4200 series only)

The optional Incite to MTL conversion software has been improved and can now be run from the CAPG menu system. This feature allows an existing INCITE test program to be migrated into MTL whilst the existing System 80 fixture is retained and used via a fixture adapter.

Two further options are also available which allow the migration of test programs from the Agilent (HP) 307x and GenRad 22xx series of test systems. Again, the original test fixture can be used together with a fixture adapter or a new 4200 style fixture can be manufactured. This approach allows the original tests and debugging to be retained wherever possible.

CHINA Beijing

Tel: [+86] (10) 6539 1166
Fax: [+86] (10) 6539 1778

CHINA Shanghai

Tel: [+86] (21) 5109 5128
Fax: [+86] (21) 5150 6112

FINLAND

Tel: [+358] (9) 2709 5541
Fax: [+358] (9) 804 2441

FRANCE

Tel: [+33] 1 60 79 96 00
Fax: [+33] 1 60 77 69 22

GERMANY

Tel: [+49] 8131 2926-0
Fax: [+49] 8131 2926-130

HONG KONG

Tel: [+852] 2832 7988
Fax: [+852] 2834 5364

INDIA

Tel: [+91] 80 5115 4501
Fax: [+91] 80 5115 4502

KOREA

Tel: [+82] (2) 3424 2719
Fax: [+82] (2) 3424 8620

SCANDINAVIA

Tel: [+45] 9614 0045
Fax: [+45] 9614 0047

SPAIN

Tel: [+34] (91) 640 11 34
Fax: [+34] (91) 640 06 40

UK Burnham

Tel: [+44] (0) 1628 604455
Fax: [+44] (0) 1628 662017

UK Cambridge

Tel: [+44] (0) 1763 262277
Fax: [+44] (0) 1763 285353

UK Stevenage

Tel: [+44] (0) 1438 742200
Fax: [+44] (0) 1438 727601
Freephone: 0800 282388

USA

Tel: [+1] (316) 522 4981
Fax: [+1] (316) 522 1360
Toll Free: 800 835 2352

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www.aeroflex.com

info-test@eroflex.com



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