ATLAS
Software Programming System

ATLAS standard IEEE Std 716-1989. Automatically creates correct ATLAS syntax

```
C          ====================================================== $
 C         ====================================================== $
 C          Tests on the DVS1-A load resistor R6 (1K8) using MSC. $
 C         ====================================================== $
 C         ====================================================== $
 001625  OUTPUT, C'Testing Resistor R6    \CR\' $
 001629  VERIFY, (RES INTO 'MEAS_RES'), DC SIGNAL USING 'DMMDC', NOM
         1800 OHM UL 2000 OHM LL 1600 OHM, RES MAX 2000 OHM, CNX HI
         J1-C25 LO COM $
 001633  IF, NOGO, THEN $
C          Resistance (B1) test failed $
 001641    OUTPUT, C'Resistance test result  (R6)   =        ',
           'MEAS_RES': 5 :   2, C' OHM   FAIL\LF\\CR\' $
 001645    CALCULATE, 'PASS_RESULT' = FALSE $
 001649  ELSE $
C          Resistance (B1) test passed $
 001657    OUTPUT, C'Resistance test result  (R6)   =        ',
           'MEAS_RES': 5 :   2, C' OHM   PASSED\LF\\CR\' $
 001661  END, IF $
```

■ Reduced programming development costs
■ GPIB / VXI control software
■ Automatically generates syntactically correct statements
■ IEEE Std 716-1989 Standard ATLAS

The Abbreviated Test Language for All Systems (ATLAS) is a high level structured language for Automatic Test Equipment capable of expressing test specifications and test procedures independent of any specific test system. It is an internationally recognized standard from the IEEE which is widely used for military and avionics testing.

A variant of the IFR test language TPG, IFR-ATLAS, is available which provides a cost-effective edit and run-time system for programmers using the ATLAS language. IFR-ATLAS is based upon the ATLAS IEEE standard 716-1989.

Program debugging is simplified with IFR-ATLAS. Different statement types are displayed in different colors - black for ATLAS statements, green for ATLAS comment statements, blue for TPG instrument commands and red for unrecognized statements.

ATLAS test programs can be imported from or exported to other ATLAS systems using ASCII text files. Imported test programs are automatically checked for syntax errors.

IFR-ATLAS reduces the time wasted compiling test programs because, like TPG statements, IFR-ATLAS statements are 'tokenized' and can be executed 'live'. The benefit of this is that no compilation is required and debug times are drastically reduced.

Other programming and debug features include the ability to renumber automatically lines of code including any GOTO or BRANCH statements, a task normally performed laboriously by hand, and the ability to use any existing TPG facilities and features.

IFR-ATLAS also simplifies the task of communicating with instruments. When ATLAS talks to a resource using a multi-function verb (e.g. APPLY, MEASURE, VERIFY, etc.) the resource will have to perform a series of single-action verbs in a predefined order. IFR-ATLAS uses the TPG macro commands to perform this hierarchical software, which allows the programmer to mix ATLAS and TPG instrument statements in a form acceptable to the ATLAS rules.

The IFR-ATLAS system can link with virtually any hardware which can be connected to a standard PC. Many common interfaces, including GPIB, VXI and RS-232, are supported as standard, while the software has been developed to allow easy integration of totally new devices using Windows DLL calls. Communications can be made over Ethernet using TCP/IP protocols to external logging facilities. IFR-ATLAS has in-built links to the IFR *i*-Base information management system.

The ATLAS program extract shown here shows a section of a program which uses an ATLAS defined resource (DMMDC) to make a RESISTANCE measurement on the Unit Under Test.

System Requirements

Minimum Recommended PC Requirements
386, 4Mb, VGA, Windows 3.1

Recommended PC Requirements
486, 8 Mb, SVGA, Windows 3.1

Disk Usage
5 Mb for ATLAS and Profiles

Supplied Software Format
3.5 in DOS Compatible Floppy Disks

GPIB Interface
National Instruments PCIIa or PCMCIA

Language Standard
IEEE Std 716-1989

Features

- Microsoft Windows Application
- Always creates programs with the correct ATLAS syntax.
- No compilation required
- Modify and run immediately
- Statements can be executed 'live'
- Language can be customized
- Able to import ATLAS ASCII programs from third party vendors
- Language compatible with 5300 series
- Same 'look and feel' as TPG
- Can interface to 5300's open architecture or to international standard GPIB and VXI buses.

Benefits

- Eliminates time wasted debugging syntax errors
- No time wasted compiling
- Reduced program maintenance costs
- Low cost of training and ownership
- Quick test program debugging
- Can create, edit, debug and execute an ATLAS test program in one environment
- New instruments can be easily added
- Users are not locked into proprietary hardware standards.
- Requires no other software add-ons

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