

**Release Notes
ATLAS Compiler
Version 03.23.07 (20050928)
28 September 2005**

1 Overview

The following describes an overview of changes included within version 20050928 (3.23.7) of the following ATLAS compiler(s)

IEEE716.89 / All Stations

and version 20050928 (3.23.7) of the following ATLAS support tools:

None

1.1 Enhancements

1.1.1 OUTPUT, ... <ArrayRange>

1.2 Problem Reports

05-021

2.0 Detailed Description

2.1 Enhancements

2.1.1 OUTPUT, ... <ArrayRange>

The IEEE Std 716 / 1989 (C/ATLAS,) <TextOutput> 9.3.6 syntax allows a comma separated list of <Expressions>, each of which may be optionally followed by a <TextFormat> 9.3.6.A, as shown by the following syntax definition:

```
<TextOutput> :: [ TO <File> ] { <Fd> <Expression> [ <TextFormat> ] }...
```

Several users have requested that in addition to <Expression> that an <ArrayRange> reference be allowed as it is in the ARINC – 626 standard.

This revision of the IEEE716.89 compilers includes that requested enhancement, thus the syntax definition is now, as follows:

<TextOutput> :: [TO <File>] { <Fd> { <Expression> | <ArrayRange> }
[<TextFormat>] }...

The <TextFormat>, if present, will apply to each element of the specified array.

2.2 Problem Reports

2.2.1 05-021 EXTERNAL / GLOBAL Constants

The IEEE Std 716 / 1989 (C/ATLAS,) allows CONSTANT declarations to optionally specify the EXTERNAL or GLOBAL attribute. The syntax requires that the constant value always be specified, including when the EXTERNAL attribute is specified. Those specifications enable the possibility that such an EXTERNAL *constant* be assigned a different value in the ATLAS *module* where the GLOBAL declaration appears:

Example:

```
BEGIN, ATLAS PROGRAM '1'                                $
...
DECLARE, EXTERNAL, CONSTANT 'MAXITM' IS 100           $
...
TERMINATE, ATLAS PROGRAM '1'                           $

BEGIN, ATLAS MODULE '2'                                $
...
DECLARE, GLOBAL, CONSTANT 'MAXITM' IS 110             $
...
TERMINATE, ATLAS MODULE '2'                           $
```

Thus the value associated with the *constant* 'MAXITM' is 100 in program '1' and 110 in module '2'.

This release of the ATLAS Compiler will issue a the information message:

“EXTERNAL Constant Value – Ignored (INFO)”

All runtime references to the *constant* will use the value specified by the GLOBAL declaration.