

# NAG Library Routine Document

## F06HBF

**Note:** before using this routine, please read the Users' Note for your implementation to check the interpretation of ***bold italicised*** terms and other implementation-dependent details.

### 1 Purpose

F06HBF broadcasts a complex scalar into a complex vector.

### 2 Specification

```
SUBROUTINE F06HBF(N, CON, X, INCX)
INTEGER          N, INCX
complex*16      CON, X(*)
```

### 3 Description

F06HBF performs the operation

$$x \leftarrow (\alpha, \alpha, \dots, \alpha)^T,$$

where  $x$  is an  $n$  element complex vector.

### 4 References

None.

### 5 Parameters

- |    |                                                                                                           |                     |
|----|-----------------------------------------------------------------------------------------------------------|---------------------|
| 1: | N – INTEGER                                                                                               | <i>Input</i>        |
|    | <i>On entry:</i> $n$ , the number of elements in $x$ .                                                    |                     |
| 2: | CON – <b>complex*16</b>                                                                                   | <i>Input</i>        |
|    | <i>On entry:</i> the scalar $\alpha$ .                                                                    |                     |
| 3: | X(*) – <b>complex*16</b> array                                                                            | <i>Input/Output</i> |
|    | <b>Note:</b> the dimension of the array X must be at least $\max(1, 1 + (N - 1) \text{INCX} )$ .          |                     |
|    | <i>On entry:</i> an array X.                                                                              |                     |
|    | <i>On exit:</i> the vector $x$ scattered with a stride of INCX. Intermediate elements of X are unchanged. |                     |
| 4: | INCX – INTEGER                                                                                            | <i>Input</i>        |
|    | <i>On entry:</i> the increment in the subscripts of X between successive elements of $x$ .                |                     |

### 6 Error Indicators and Warnings

None.

### 7 Accuracy

Not applicable.

## **8 Further Comments**

None.

## **9 Example**

None.

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