

CONTENTS

<u>Section</u>	<u>Page</u>
1 INTRODUCTION	1-1
1.1 PURPOSE AND SCOPE	1-1
1.2 APPLICABILITY	1-1
1.3 RATIONALE	1-1
1.4 DOCUMENT STRUCTURE.....	1-2
1.5 DEFINITIONS	1-2
1.5.1 TERMS	1-2
1.5.2 NOMENCLATURE.....	1-2
1.5.3 CONVENTIONS	1-3
1.6 REFERENCES.....	1-5
2 OVERVIEW	2-1
2.1 DESIGN AIMS	2-1
2.2 STRUCTURE OF AN EAST DESCRIPTION.....	2-1
2.3 LANGUAGE SUMMARY	2-2
3 DEFINITION OF THE EAST LANGUAGE	3-1
3.1 LEXICAL ELEMENTS	3-1
3.1.1 SEPARATORS AND DELIMITERS	3-1
3.1.2 COMMENTS	3-1
3.1.3 IDENTIFIERS.....	3-2
3.1.4 NUMERIC LITERALS.....	3-2
3.2 LOGICAL DESCRIPTION.....	3-7
3.2.1 TYPE DECLARATIONS	3-8
3.2.2 SUBTYPE DECLARATIONS	3-23
3.2.3 OBJECT DECLARATIONS.....	3-26
3.2.4 REPRESENTATION CLAUSES	3-30
3.3 PHYSICAL DESCRIPTION	3-41
3.3.1 STORING ARRAYS	3-42
3.3.2 STORING OCTETS/BITS.....	3-42
3.3.3 REPRESENTATION OF SCALAR TYPES.....	3-44

3.3.4	RELATIONSHIP BETWEEN THE REPRESENTATION OF SCALAR TYPES AND LOGICAL TYPES	3-55
3.3.5	TEMPLATE OF A PHYSICAL DESCRIPTION PART	3-57
4	RESERVED KEYWORDS	4-1
5	CONFORMANCE	5-1
ANNEX A	ACRONYMS AND GLOSSARY	A-1
ANNEX B	CHARACTER DEFINITION	B-1
ANNEX C	EAST FORMAL SYNTAX SPECIFICATION	C-1
ANNEX D	MAIN DIFFERENCES BETWEEN ADA AND EAST	D-1
ANNEX E	INFORMATIVE REFERENCES	E-1
INDEX	I-1

Figure

1-1	Example of Syntax Diagram	1-3
3-1	Identifier Definition Diagram.....	3-2
3-2	Decimal Literal Definition Diagram	3-3
3-3	Integer Decimal Literal Definition Diagram	3-3
3-4	Real Decimal Literal Definition Diagram	3-3
3-5	Integer Definition Diagram	3-3
3-6	Exponent Definition Diagram	3-4
3-7	Based Literal Definition Diagram	3-4
3-8	Integer Based Literal Definition Diagram	3-5
3-9	Real Based Literal Definition Diagram.....	3-5
3-10	Based Integer Definition Diagram	3-5
3-11	Integer Literal Definition Diagram.....	3-6
3-12	Real Literal Definition Diagram	3-6
3-13	Logical Part Structure.....	3-7
3-14	Enumeration Type Specification Diagram	3-8
3-15	Enumeration Literal Definition Diagram	3-9
3-16	Integer Type Specification Diagram	3-9
3-17	Real Type Specification Diagram	3-10
3-18	Array Type Specification Diagram	3-12
3-19	Index Specification Diagram.....	3-12
3-20	Record Type Specification Diagram	3-14
3-21	Component Declaration Diagram.....	3-14
3-22	Index Constraint Diagram	3-15

CONTENTS (continued)

<u>Figure</u>	<u>Page</u>
3-23 Discriminant Specification Diagram.....	3-16
3-24 Variant Part Specification Diagram	3-16
3-25 Discriminants in a Packet Format	3-19
3-26 Type Summary	3-22
3-27 Subtype Declaration Diagram	3-23
3-28 Enumeration Constraint Diagram	3-23
3-29 Integer Constraint Diagram.....	3-24
3-30 Real Constraint Diagram.....	3-25
3-31 Variable Declaration Diagram	3-26
3-32 Constant Declaration Diagram.....	3-26
3-33 Length Clause Specification Diagram.....	3-30
3-34 Enumeration Clause Specification Diagram	3-32
3-35 Component Representation Clause Specification Diagram	3-33
3-36 Record Representation Clause Specification Diagram	3-33
3-37 First Tree Structure	3-35
3-38 Second Tree Structure	3-36
3-39 Third Tree Structure.....	3-37
3-40 Fourth Tree Structure	3-38
3-41 Distance Specification Diagram.....	3-40
3-42 Record Value Specification Diagram.....	3-48
3-43 Array Value Specification Diagram	3-48
3-44 ASCII Encoded Decimal Integer Format	3-53
3-45 ASCII Encoded Decimal Real Format	3-54

Example

1-1 Example of BNF	1-4
3-1 Decimal Literals	3-4
3-2 Based Literals.....	3-6
3-3 Enumeration Type Declarations.....	3-9
3-4 Integer Type Declarations	3-10
3-5 Real Type Declarations	3-10
3-6 Constrained Array Type Definitions	3-13
3-7 Unconstrained Array Type Definitions	3-13
3-8 Record Type Definitions	3-15
3-9 Record Type Definition with Discriminant.....	3-17
3-10 Record Type Definition with Discriminant.....	3-17
3-11 Logical Description of the Packet Format.....	3-21
3-12 Character Declarations	3-24
3-13 Subtype Declarations.....	3-25

CONTENTS (continued)

<u>Example</u>	<u>Page</u>
3-14 Variable Declaration	3-26
3-15 Constant Declaration	3-27
3-16 Number Declarations	3-27
3-17 Marker Declaration	3-28
3-18 EOF Marker Declaration	3-29
3-19 Length Clause Declarations	3-30
3-20 Explicit Description of Unused Space	3-31
3-21 Enumeration Clause Declarations	3-32
3-22 Type Definitions	3-34
3-23 Complete Record Representation Clause Declaration	3-35
3-24 Incomplete Record Representation Clause Declaration	3-36
3-25 Complete Record Representation Clause Declaration	3-37
3-26 Complete Record Representation Clause Declaration	3-39
3-27 Record Representation Clause Using WORD_32_BITS	3-40
3-28 Actual Array Storage Method	3-42
3-29 Octet Storage Possibilities	3-43
3-30 Actual Bit Order	3-44
3-31 Bit Ordering	3-46
3-32 Bit Ordering for the Above 16-Bit Signed Integer	3-49
3-33 Actual Binary Representation of the Above 16-Bit Signed Integer	3-49
3-34 Bit Ordering for the Above 16-Bit Unsigned Integer	3-49
3-35 Actual Binary Representation of the Above 16-Bit Unsigned Integer	3-50
3-36 Bit Ordering for the Above 32-Bit Real	3-50
3-37 Actual Binary Representation of a 32-Bit Real	3-51
3-38 ASCII Enumeration Type Logical Declaration	3-53
3-39 ASCII Enumeration Type Physical Description	3-53
3-40 ASCII Integer Type Logical Declaration	3-55
3-41 ASCII Integer Type Physical Description	3-55
3-42 ASCII Real Type Logical Declaration	3-55
3-43 ASCII Real Type Physical Description	3-55