

1. Introduction	1.1
1.1. Interlisp as a Programming Language	1.1
1.2. Interlisp as an Interactive Environment	1.3
1.3. Interlisp Philosophy	1.5
1.4. How to Use this Manual	1.7
1.5. References	1.8
2. Litatoms	2.1
2.1. Using Litatoms as Variables	2.2
2.2. Function Definition Cells	2.5
2.3. Property Lists	2.5
2.4. Print Names	2.7
2.5. Characters and Character Codes	2.12
3. Lists	3.1
3.1. Creating Lists	3.4
3.2. Building Lists From Left to Right	3.6
3.3. Copying Lists	3.8
3.4. Extracting Tails of Lists	3.9
3.5. Counting List Cells	3.10
3.6. Logical Operations	3.11
3.7. Searching Lists	3.12
3.8. Substitution Functions	3.13
3.9. Association Lists and Property Lists	3.15
3.10. Sorting Lists	3.17
3.11. Other List Functions	3.19
4. Strings	4.1
5. Arrays	5.1
6. Hash Arrays	6.1
6.1. Hash Overflow	6.3

6.2. User-Specified Hashing Functions	6.4
7. Numbers and Arithmetic Functions	7.1
7.1. Generic Arithmetic	7.3
7.2. Integer Arithmetic	7.4
7.3. Logical Arithmetic Functions	7.8
7.4. Floating Point Arithmetic	7.11
7.5. Other Arithmetic Functions	7.13
8. Record Package	8.1
8.1. FETCH and REPLACE	8.2
8.2. CREATE	8.3
8.3. TYPE?	8.5
8.4. WITH	8.5
8.5. Record Declarations	8.6
8.5.1. Record Types	8.7
8.5.2. Optional Record Specifications	8.14
8.6. Defining New Record Types	8.15
8.7. Record Manipulation Functions	8.16
8.8. Changetran	8.17
8.9. Built-In and User Data Types	8.20
9. Conditionals and Iterative Statements	9.1
9.1. Data Type Predicates	9.1
9.2. Equality Predicates	9.2
9.3. Logical Predicates	9.3
9.4. The COND Conditional Function	9.4
9.5. The IF Statement	9.5
9.6. Selection Functions	9.6
9.7. PROG and Associated Control Functions	9.7
9.8. The Iterative Statement	9.9
9.8.1. I.s.types	9.10
9.8.2. Iteration Variable I.s.oprs	9.12
9.8.3. Condition I.s.oprs	9.15
9.8.4. Other I.s.oprs	9.16
9.8.5. Miscellaneous Hints on I.S.Oprs	9.17
9.8.6. Errors in Iterative Statements	9.19

9.8.7. Defining New Iterative Statement Operators	9.20
10. Function Definition, Manipulation, and Evaluation	10.1
10.1. Function Types	10.2
10.1.1. Lambda-Spread Functions	10.3
10.1.2. Nlambdas-Spread Functions	10.4
10.1.3. Lambda-Nospread Functions	10.5
10.1.4. Nlambdas-Nospread Functions	10.6
10.1.5. Compiled Functions	10.6
10.1.6. Function Type Functions	10.6
10.2. Defining Functions	10.9
10.3. Function Evaluation	10.11
10.4. Iterating and Mapping Functions	10.14
10.5. Functional Arguments	10.18
10.6. Macros	10.21
10.6.1. DEFMACRO	10.24
10.6.2. Interpreting Macros	10.28
11. Variable Bindings and the Interlisp Stack	11.1
11.1. The Spaghetti Stack	11.2
11.2. Stack Functions	11.4
11.2.1. Searching the Stack	11.5
11.2.2. Variable Bindings in Stack Frames	11.6
11.2.3. Evaluating Expressions in Stack Frames	11.7
11.2.4. Altering Flow of Control	11.8
11.2.5. Releasing and Reusing Stack Pointers	11.9
11.2.6. Backtrace Functions	11.11
11.2.7. Other Stack Functions	11.13
11.3. The Stack and the Interpreter	11.14
11.4. Generators	11.16
11.5. Coroutines	11.18
11.6. Possibilities Lists	11.20
12. Miscellaneous	12.1
12.1. Greeting and Initialization Files	12.1
12.2. Idle Mode	12.4
12.3. Saving Virtual Memory State	12.6

12.4. System Version Information	12.11
12.5. Date And Time Functions	12.13
12.6. Timers and Duration Functions	12.16
12.7. Resources	12.19
12.7.1. A Simple Example	12.20
12.7.2. Trade-offs in More Complicated Cases	12.22
12.7.3. Macros for Accessing Resources	12.23
12.7.4. Saving Resources in a File	12.23
12.8. Pattern Matching	12.24
12.8.1. Pattern Elements	12.25
12.8.2. Element Patterns	12.25
12.8.3. Segment Patterns	12.27
12.8.4. Assignments	12.28
12.8.5. Place-Markers	12.29
12.8.6. Replacements	12.29
12.8.7. Reconstruction	12.30
12.8.8. Examples	12.31