THE REVTEX INPUT GUIDE

A joint effort of
The American Physical Society
The Optical Society of America
The American Institute of Physics
Ridge, Woodbury, Washington, DC
September 1996

TABLE OF CONTENTS

This input guide is for REVTeX 3.1. The README file for REVTeX 3.1 should be consulted before the REVTeX macros are used. Important copyright information is contained in the README file.

This table of contents is for the *REVTeX Input Guide* as a whole. Individual society chapters of the guide may include their own tables of contents. The sections of the guide are produced by the following files:
Preface and Introduction: manintro.tex.
REVTeX Information for APS Authors: manaps.tex.
REVTeX Information for OSA Authors: manosa.tex.
REVTeX Information for AIP Authors: manaip.tex.
Appendixes A and B: manend.tex.

PREFACE

1986: In response to author requests and market research, the American Physical Society (APS) launched a new compuscript development effort. The focus was on the TEX typesetting program, and the goal was to expand the capabilities of the Society's electronic submission program to include TEX-prepared compuscripts, using those submissions to produce final pages for Physical Review.

Evaluating the available TEX-based tools, including LaTeX, APS recognized that the TEX physics community did not have all the necessary tools to create a physics manuscript. At that point the APS staff designed the macro package and style guide called REVTEX to help meet these requirements and standardize compuscript submission files.

The idea for a REVTEX macro set was born under the following premises.

1. Ease of reformatting. Files were to be reformatted from preprints to final pages. This reformatting would have to be easily accomplished with minimal modification to the file.

2. Ease of use. If possible, build on the knowledge and documentation already available in the community. Also, the package must provide for any and all acceptable styling situations. In this way authors would be encouraged to follow the rules in manuscript preparation.

3. Built-in allowance for growth. The macro set must easily allow for more journal formats.

4. Electronic submissions. The macro set must contain preprint styles to facilitate original manuscript submissions to editorial offices.

5. Author compliance. Develop procedures to encourage author compliance, thereby minimizing handling of compuscripts, resulting in decreased proofreading for both the author and staff.

"REVTEX," so named for the *Physical Review* journals, was released in 1988. Version 2 responded to author feedback and also addressed certain in-house production concerns. Version 2 was released in March 1990.

The Optical Society of America (OSA), the American Astronomical Society (AAS), and the American Institute of Physics (AIP) expressed interest in this project and were kept informed of progress. The APS has enjoyed continued success with their compuscript program, and as of July 1996 were receiving 50% of their published pages as compuscripts.

The Joint Society Task Force

In 1990 the American Institute of Physics and a number of its member Societies organized a Joint Society Task Force (JSTF) on Electronic Publishing for the purpose of long-range strategic planning on electronic communication and publishing. The Executive Directors and Publishing Directors meet regularly to discuss common directions and goals. One of these goals involves the establishment of a standard tool for compuscript submission.

As a result, a REVTEX Working Group was established to explore the issues surrounding the use of REVTEX as this standard. Under the leadership of Janice Fleming, Chairperson (OSA), and with representatives from each organization, the group worked to resolve issues and to ensure that REVTEX version 3.0 would meet the needs of the participating organizations.

THE REVTEX INPUT GUIDE: INTRODUCTION

I. WHAT IS REVTEX?

REVTEX is an electronic publishing product of the American Physical Society. It is a set of LATEX-based tags that can be used to prepare a physics manuscript for submission. If REVTEX tags are used consistently throughout a manuscript and published guidelines are followed exactly, it is hoped that the TEX manuscript file (called a *compuscript*) can be used by APS, OSA, AIP, and other participating member societies in production of author proofs.

REVTEX is physically several *style files.* LATEX accesses these style files in order to recognize allowable tags and to get information about how these tags should be interpreted for a specific document. These REVTEX style files have been developed by the aforementioned groups to meet individual society needs as well as the needs of the users.

II. WHAT DO YOU NEED IN ORDER TO USE REVTEX?

You need TEX and LATEX to use REVTEX. REVTEX's software and hardware requirements are especially significant. It is the TEX program and the LATEX macros that really define REVTEX's needs.

A. Software requirements for all computers

1. The REVTEX style files.
2. TEX program (comes with Computer Modern fonts; must have TEX version that is compatible with your version of operating system).
3. LATEX macros.
4. A text editor or word processor (you'll be happier with one that is quick and easy to get in/out of and saves files as ASCII text as a default).
5. A printer *driver* (software needed to print).
6. Documentation for REVTEX and LATEX.

B. Hardware requirements

TEX can be run on a variety of computers and operating systems. Users must obtain the proper version of TEX for their computer and operating system; in other words, it is not possible to take a colleague's TEX program that runs on a PC and have that run on a VAX.

1. For the personal computer

The most widely used computer for manuscript preparation in the physics community is the personal computer. Implementations of TEX vary in their requirements. Below is a representative hardware configuration for a PC.

- A hard disk (will need 10–20 megabytes space).
- Any Windows supported monitor.
- A 386 or compatible with a minimum of 4 meg of RAM running Microsoft Windows 3.1, 95 or NT.
- A printer (lasers give the best output, but even some dot matrix printers are fine).

Your TEX vendor or TEX provider will provide documentation that specifies exact hardware requirements.

2. For other computers

Needs should be reviewed with TEX site coordinators. These are people that the TEX User's Group "contracts" with to distribute TEX software and to keep software current. Coordinators are not available to help install software or debug.

Call the TEX User's Group for a referral to the proper coordinator.

III. HOW DO YOU GET WHAT YOU NEED?

For current users of TEX, REVTEX can be obtained by contacting representatives listed in the society-specific chapters that follow this Introduction.

If you are not yet a TEX user, the other software listed above must be obtained from different sources, depending on the hardware that will be used. As noted above, the TEX User's Group has established Site Coordinators who distribute TEX for the various computers. Software obtained in this manner will be very inexpensive, but will require some computer aptitude to install. TUG can also advise on commercial sources for the software. These companies or consultants charge a fee for assisting with installation and/or providing technical assistance.

IV. HOW DOES REVTEX BENEFIT AUTHORS?

- REVTEX provides all the elements needed for preparation of a physics manuscript. Users will not need to develop special tags (macros) to meet their needs.

- REVTEX formats are designed to be acceptable for manuscript submission. Users will not need to be concerned about proper format for editorial offices (double spacing, margin requirements, etc.).

- REVTEX macros accommodate many presubmission distribution needs. For example, users can assign preprint numbers to manuscripts and can easily change to single-spaced copy to save paper before submission to editorial offices.

- REVTEX macros are recognized by numerous physics organizations as a TEX standard for manuscript preparation.

- REVTEX compuscript files can be used by a variety of publishers to create author proofs. Depending on the composition method used and the consistency of tagging, this can result in less proofreading for the author, accelerated production schedules, and/or reduced cost-per-page.

V. HOW TO GET STARTED?

- Get TEX and LATEX operational. Become familiar with creating simple TEX and LATEX documents with your screen editor or word processor. Learn how to print TEX documents and/or how to view them on the screen.

- Get the compuscript toolbox. This contains the following:

  General files: README, revtex.sty, manintro.tex (this file), and manend.tex.

  Society specific files: Listed in society-specific chapters of this document.

- *Read* the README file thoroughly!

- Follow installation instructions in README file.

- Read this document thoroughly. Scan the appendixes; they are provided for reference purposes, but if you look at them now you'll know where to find the information later.

- Read thoroughly the society-specific chapter of this document that is of the most interest to you, but try to at least scan *all* the society-specific chapters.

- Now focus on one society-specific chapter. Copy the template file for that society into a junk file for some experimenting.

- Edit the junk file to create an experimental manuscript. Maybe try to prepare one of the sample documents that have been provided; this way, if you get "stuck," you can consult the documentation for help.

- Try to create a new document. If you are a new TEX user, you may want to try to recreate an old document rather than a current one.

- When you have a document that is ready for submission to the editorial office of interest, review the policies for submission in the society-specific chapter. Individual editorial offices have differing requirements for when you should provide the REVTEX file. For example, most editorial offices currently require that hard copy (paper copy) be provided for original submission, but APS offices encourage original manuscript submissions to be electronic. See the Reminder below.

- Reminder: The society-specific chapters are provided because each organization has different policies and processing procedures for compuscripts. Please make sure that you review the appropriate chapter even if and when you are an expert REVTEX user!

VI. CAN YOU CREATE YOUR OWN MACROS?

The use of author-created macros is strongly discouraged. The REVTEX macro set is intended to represent completely the tagging needs for a physics manuscript. Non-standard tags will probably disqualify a manuscript file from a compuscript program because most journal compositors cannot translate them cost-efficiently.

This point frequently requires further clarification: usually it is not technically impossible to use or to translate author-created macros. However,

> **the time and effort required to massage compuscript files that do not follow standard formatting guidelines will eliminate any cost savings and/or time savings in production, and will eliminate any proofreading time savings for the author.**

Therefore, authors who use custom macros to save keystrokes in preparing their manuscript should remove them before generating the manuscript output for submission. Most screen editors and word processors have tools that will facilitate this.

VII. WHAT ELSE CAN I READ?

The following are the standard references, by the authors of LATEX and TEX, respectively.

[1] Leslie Lamport, LATEX*: A Document Preparation System* (Addison-Wesley, Reading, MA, 1986).
[2] Donald Knuth, *The TEXbook* (Addison-Wesley, Reading, MA, 1984).