Submission Guidelines for J.E.T.T. Contributors

The *Journal of Educational Techniques and Technologies* accepts manuscript submissions from prospective authors and print/electronic media products from manufacturers, distributors, and vendors. The following guidelines highlight the general submission procedures for manuscript submission (for possible publication) and product submission (for review).

Manuscript Submission Guidelines for Authors

Types of Articles: *The Journal of Educational Techniques and Technologies* publishes the following types of articles: brief reports, comments/replies, case histories, monographs, reports of empirical studies, review articles, theoretical articles, discussions of quantitative methods, issues and answers, point-of-view, tools of the trade, and feature articles in the following areas: language laboratories, media in language learning, satellite broadcasts, learning lab equipment, learning lab administration, CAI and language learning, media in business languages, languages in secondary schools, language learning resources, ESL and the learning lab, languages in elementary schools, media centers, and related topics.

Subject of Articles: Because chalkboard, textbook, and flashcards have withstood the test of time—whereas their more exotic sibling technologies often have not—technological subjects published in *J.E.T.T.* span the spectrum of "little media-big media" in foreign, second, and native language teaching and learning.

Because drill-and-practice, role-play, and songs are effective educational practices in the language classroom, pedagogical topics published in *J.E.T.T.* span the spectrum from the traditional to the avant-garde methodologies in language teaching and learning.

The most suitable subjects for the pages of *J.E.T.T.* are those which tell "how-to" integrate effective learning/teaching research, theory, and practice with appropriate print, electronic, audio-visual, or magnetic media technologies. *J.E.T.T.* specializes in practices and products for today's language learning.

Form of Manuscripts: *J.E.T.T.* uses the *Publication Manual of the American Psychological Association* (APA), 1983, as its style manual. Copies may be ordered from the Order Department, APA, Box 2710, Hyattsville, MD 20784. Currently, over 200 non-APA journals use—in whole or in part—the APA style manual. *J.E.T.T.* modifies this style whenever necessary.

Preparation of Manuscripts Submitted to J.E.T.T.: The instructions for manuscript preparation are intended as an aid to assist authors in communicating clearly.

Length: As a rule of thumb, three double-spaced, typed manuscript pages equal one printed page. *J.E.T.T.* welcomes any article long enough to cover the subject but short enough to keep it interesting. The average length of manuscripts submitted to *J.E.T.T.* is 10-14 pages.

Title: The title of a manuscript should literally "pull" the reader into the subject of the article by stating concisely and with attention-grabbing style the "gist" of the main idea or issue under discussion. Authors should avoid any word that

does not help pull the reader into the topic. The recommended length of a manuscript title is 12 to 15 attention-grabbing, topic-enlightening words.

Author's Name/Affiliation: In addition to the title, the title page also lists the author's name (First Name, Middle Initial, and Last Name) with all professional titles omitted. (See pages 23, 148 of APA publications manual). Below his or her name, the author types the name of the institution where the work or manuscript was done; when there is no institutional affiliation, the author types the city and state of residence.

Running Head: On the bottom of the title page, the author types the running head—an abbreviated title with a maximum of 50 spaces, including letters, punctuation, and spaces.

Abstract: All manuscripts submitted to *J.E.T.T.* must have an abstract—a brief, succinct summary recapitulating the main ideas or findings of the manuscript. Generally, an abstract consists of 75-100 words; it is written in a clear, vigorous, and informative style; authors should use the active instead of the passive voice.

Typing: Manuscripts must be typed on high quality, white bond paper, 8.5" x 11" (22 x 28 cm) and double-spaced throughout.

Margins: Top, bottom, and sides are 1.5" (4 cm) without exception.

Separate Pages: Title page, abstract, tables, authors acknowledgments, etc., must all be typed on separate pages.

Print: The entire manuscript must be typed; only letter-quality computer print-outs are acceptable.

Number of Manuscripts: Authors must submit the original and three clean copies; the three copies must not show author identification.

References: All citations in the manuscript must appear in the reference section typed at the end of the manuscript; all references listed at the end of the manuscript must appear in the text.

Hyphenation: Authors should not hyphenate words at the righthand margin; leave space and begin a new line or go slightly beyond the margin.

Dictionary: *J.E.T.T.* uses Webster's New Collegiate Dictionary by G.C. Merriam Company, Springfield, Massachusetts as the final arbiter on American English.

How to Submit a Manuscript to J.E.T.T.

Submit the original and three clean photo-copies; include glossy prints of any figures. Carbon copies and non-letter quality computer print-outs are unacceptable.

Cover Letter: Enclose a short cover letter when submitting a manuscript to the editorial offices of *J.E.T.T.* The cover letter should include the following information: specific information about the manuscript such as title, number of pages, number of tables or illustrations, and copies of all applicable copyright releases for copyright protected materials; include telephone number and complete address.

Simultaneous Submissions: A manuscript that has been submitted to another publication simultaneously will not be considered for publication in *J.E.T.T.*

Copyright: When a manuscript is accepted for publication in *J.E.T.T.*—each issue of which is copyright protected under the Copyright Laws of the United States—the author will receive a *Copyright Transfer Form* by which the author(s) transfer all rights to *J.E.T.T.* In the event the author wishes to re-print any portion of his or her article **as it appeared in *J.E.T.T.***, he or she must ask for written permission from the editor. An article accepted for publication will not be published unless and until the editor receives the signed copyright transfer form.

Manuscript Receipt Response: When a manuscript is received in the editorial offices of *J.E.T.T.*, the editor will respond with an acknowledgment within 48 hours unless extraordinary circumstances prevent acknowledgment.

Blind Review: *J.E.T.T.* adheres to a "blind" review of all manuscripts. Identification of manuscript author should appear only on the title page; all other pages should be labeled with the short title and page number only in the upper right-hand corner of each manuscript page. The peer review process takes approximately 10-12

weeks; on occasion and at the discretion of the editor, the peer review process may be extended to give a reader more time or to make allowances for the international mail.

Reviewers: The reviewers who participate in the *J.E.T.T.* peer review process of all manuscripts are national and international professionals in the field; each evaluates manuscripts in his or her area(s) of expertise. Reviewers are selected by the editors on the basis of their willingness to serve the publication in this important capacity and on the record of their service to the profession.

MANUSCRIPT SUBMISSION ADDRESS:
Editor, *J.E.T.T.*, 304C Moore College Building, UGA Language Laboratories, University of Georgia, Athens, Georgia 30602, U.S.A.

Product Submission for Review

All items submitted for review must be submitted as a complete unit; that is, all supplemental and peripheral items that go with the item for review must accompany the submission. An item that has been submitted simultaneously for review elsewhere must be identified as such.

All items must be properly packaged, insured, and sent to: *J.E.T.T.*, 304C Moore College Building, UGA Language Laboratories, University of Georgia, Athens, Georgia 30602, U.S.A.

The Journal of Educational Techniques and Technologies considers for review the following in the area of practices and products for today's language learning: Books, Audio Programs, Film, Software, Hardware, Audio-Visual Materials, Video, and Related Materials.

The opinions expressed in the review are those of the author(s) and do not in any way represent the expressed or implied endorsement of the editors or the International Association for Learning Laboratories (IALL).

Before sending an item for review, notify the editors—by mail or telephone—of your intention to do so. Items will be returned to producers only upon request at the time of submission.

Specific Submission Procedures

Film: One (1) copy of the film, together with its supplemental materials must be submitted to *J.E.T.T.* The company or film maker submitting the film for review must include the following: price, intended target audience, if, when, and where the film has already been used in learning applications. The company or film maker submitting the film must include a biographical sketch of the person(s) responsible for producing the film.

The film review process takes approximately 12 weeks. The editor reserves the right to lengthen the review process as circumstances warrant and to determine if, when, and in which issue the review of the film will appear.

J.E.T.T. reviews films from national and international film sources, small production companies, and individuals on the theme of practices and products for today's language learning. The preferred film format is 16mm, although *J.E.T.T.* will review other formats as well.

Video: One (1) copy of the video program, together with its supplemental materials, must be submitted to *J.E.T.T.* The publisher or person submitting the video must indicate if, when, and where the program has been reviewed, the target audience for which it is intended, if it is already being used in language learning applications, and its cost.

The publisher or person submitting the video program must include a biographical sketch of the person(s) who made the video.

J.E.T.T. considers for review video in the area of practices and products for today's language learning. Video sent to *J.E.T.T.* for review will be sent to reviewers judged by the editors as capable of reviewing both content and treatment.

The video review process takes approximately ten weeks. The editor reserves the right to lengthen or shorten the review process and to determine if, when, and in which issue the review will appear.

The preferred format is *NTSC VHS;* however, *J.E.T.T.* also reviews multi-standard *PAL, SECAM* video programs in VHS. Other formats are also

welcome, but their review depends on *J.E.T.T.* locating qualified reviewers with the appropriate equipment.

Software: One (1) copy of the software program, together with its supplemental and peripheral materials must be submitted to the editorial offices of *J.E.T.T.*

If demonstration discs are submitted, they will be evaluated as simply that—demonstration discs. If the publisher wishes to send only one lesson of a multi-lesson software program, the lesson must be truly representative of the entire program; the evaluation, however, will be made specifically on the lesson submitted.

J.E.T.T. accepts software programs that run on the IBM and IBM compatibles, Apple, Tandy, and Commodore. For programs that run on PCs other than the above-mentioned, *J.E.T.T.* cannot guarantee that its reviewers have the specific PC; the editors will attempt to find the required hardware, however.

Software programs are submitted to professionals in the field who are judged by the editors as capable of evaluating the submitted programs.

J.E.T.T. accepts for review only software programs in the area of practices and products for today's language learning from national and international publishers, program producers, and individuals.

The software review process takes approximately 14 weeks. The editor reserves the right to lengthen or shorten the review process and to determine if, when, and in which issue a software review will appear.

For computer software, please indicate the following:

Courseware name
Application
Instructional method
Vendor
Cost
Copy policy
Equipment
PC memory required
Prerequisites

Hardware: *J.E.T.T.* accepts hardware applicable in the area of practices and products for today's language learning for review. The hardware must be carefully packed, insured, and sent via a carrier determined by the vendor. Before sending hardware, notify the editorial offices of *J.E.T.T.* of the impending submission.

Hardware submitted for review is submitted to professionals in the field who are judged qualified to review the hardware in question. The editor determines if, when, and in which issue a hardware review will appear.

Audio-Visual Materials: *J.E.T.T.* accepts audio-visual print and electronic materials in the area of practices and products for today's language learning. A complete set of the A-V materials must be sent to the editorial offices of *J.E.T.T.*

The A-V materials will be sent to professionals in the field who are judged capable of evaluating the materials. The review process takes approximately ten weeks. The editor reserves the right to determine if, when, and in which issue a particular A-V review will appear.

J.E.T.T. accepts for review A-V materials produced by national and international publishers, companies, and individuals.

Audio Programs: One (1) copy of the complete audio program and its supplemental materials must be submitted to *J.E.T.T.* The publisher or person submitting the audio program must indicate the language applications in which this program is designed to be used and the circumstances under which it may be used, including copy policy and cost of purchase.

J.E.T.T. reviews audio programs from national and international publishers, little-known or small companies, and individuals in the area of practices and products for today's language learning.

The editor reserves the right to determine if, when, and in which issue a particular audio review will appear. The review process takes approximately ten weeks and may be lengthened or shortened by the editor as circumstances warrant.

Books: Three (3) copies of the book, together with its supplemental materials, must be submitted to *J.E.T.T.* Books sent for review will be returned only upon request at the time of submission.

Publishers or persons submitting books for review must indicate the cost of the book and each supplemental item.

The book review process takes approximately eight weeks; the editor reserves the right to lengthen or shorten the process as circumstances warrant and to determine if, when, and in which issue a particular book review will appear.

J.E.T.T. reviews books from national and international publishers, little-known and small presses, and self-publishers in the area of practices and products for today's language learning.

J.E.T.T. welcomes technical questions from its readers. Send your questions to Ask the Technician, *J.E.T.T.*, 304C Moore College, Language Laboratories, University of Georgia, Athens, Georgia 30602, U.S.A. All questions become the property of *J.E.T.T.* and are subject to editing.

LASER OPTICAL MEDIA: FUTURE OR NOW?

I recently attended a national conference for educators and found myself overwhelmed by the latest in laser technology with its almost magical digital effects. My question is three-fold: 1) Can you give me a thumbnail definition of laser technology terms which were almost as plentiful as the laser disc vendors at the conference; 2) who are the major manufacturers of laser optical media; and 3) an explanation of the statement by a laser disc vendor who boldly and proudly stated, "We have seen the future and it is laser optical media."

R.B.
Athens, GA

JETTECH: Let me address the second part of your question first. The manufacturer who first introduced a laser optical system was Phillips, a Holland-based company. Since the introduction of the Phillips system, other manufacturers have spent millions of research and developmental dollars to improve and upgrade laser technology, most notably Pioneer, Sony, Yamaha, Magnavox, and Curtis Mathes.

Before I give you my thoughts about why the future may or may not be laser, let me define some over-used acronyms that have become the common currency of thought when discussing laser optical media. First of all, the term "laser optical media" refers to all three, five, eight, and 12-inch diameter discs encoded with data and read by a beam of light or laser. The acronym

LV(laser videodisc) refers only to the eight and 12-inch plastic discs which most often contain a combination of analog video, together with digital and analog audio. LVs can be either of the CAV(constant angular velocity) variety, spinning at 1,800 RPM(revolutions per minute) and permitting special effects such as slow motion, freeze-framing, and step framing or of the CLV(constant linear velocity-type, which starts out spinning at 1,800 RPM but slows to 600 RPM as it reaches the outer rim of the disc. Because the revolutions per minute vary, CLVs can play up to an hour—30 minutes more than the constant speed CAVs. However, what the CLV gains in time, it sacrifices in special effects: More special effects are possible with the higher-speed CAVs.

The acronym that stands for the three-and-five-inch hard plastic discs containing digital audio data is CD(compact disc). Many people are familiar with the distortion-free digital audio sound quality of CDs. CDs spin at approximately 500 RPM and hold about 540 megabytes of data, which is roughly equivalent to 70 minutes of playing time. The smaller three-inch CD has approximately 20 minutes of playing time.

Compact disc-video or CD-V is a relative newcomer to the world of laser technology. Although it resembles the five-inch CD, CDV looks different—it is gold in color—and it utilizes the storage space on the disc differently. The inner rim of a CD-V stores 20 minutes of digital audio and spins at roughly 500 RPM while the outer rim holds a five-minute music video clip and spins anywhere from 2,250 to 2,700 RPM.

Perhaps, the most often heard acronym in the world of the laser is CD-ROM(CD-read-only-memory). Each five-inch CD-ROM stores about 150,000 pages of pre-recorded information and as such, CD-ROM is a computer peripheral which permits the user to access the 150,000 pages of data in a random fashion.

The most exciting news in laser technology can be found in the acronym CD-I or compact disc-

interactive. Introduced two years ago by Phillips, CD-I marries the CD-player with the computer. This marriage provides pages of text, still video, graphics, and the extraordinary CD audio. Phillips and other laser optical media manufacturers hope CD-I will usher in the dawn of the new man/machine interactivity age. Although the news about CD-I is exciting, as far as I know, the Phillips CD-I prototype has yet to be demonstrated publicly, either at consumer electronics shows or educational conferences. In the event that *J.E.T.T.* readers are in the market for a laser disc player or CD, and want to be ready for CD-I, I recommend purchasing a player with an interface port that allows the user to hook the player up to a personal computer. Pioneer's LD-SI, for example, is one model that has the digital interface.

As for the I-have-seen-the-future-and-it-is-laser-disc visionaries, I make the following observations: With almost seven million CD players already in use and over 300,000 laser disc players in homes and schools, it appears that the consuming public accepts laser technology as the next logical offering in the evolution of technology. When American Interactive Media transferred the entire *Grolier's Encyclopedia* to one disc in the CD-ROM format (it used up 1/5 of the disc) and when Parker Brothers, the giant game company, announces a joint effort with American Interactive Media to create *Monopoly, Clue, Risk,* and board games in CD-I, it appears that laser technology is not just for superior renditions of hit movies anymore. The future, however, will not be just disc, laser or otherwise; the future will probably be digital since electronic media are becoming digital. According to communications industry experts and scholars, once all electronic media are digital, each medium can be transformed into the other: Anything can become anything else. The implications of a future where anything can become anything else boggle the mind.

COMPUTER VIRUSES

The computer center at my school has issued guidelines to prevent computer "viruses." I almost laughed out loud. How can computers suffer from viruses? Can you explain what all the fuss is about and what, pray tell, is a computer virus?

V.M.
Albuquerque, NM

JETTECH: We tend to project human qualities into inanimate things, including computers. We think of the computer as patient, non-judgmental, long-suffering, and impartial. Not surprising, when we find our computers destroying programs or files not because of operator error but for no apparent reason, we often resort to the medical model of dysfunction to explain what we do not entirely understand.

Although analogous to viruses that cause human diseases, computer viruses are computer programs that, like human viruses, are transmitted from disk to disk, from networked computer to networked computer, and they destroy stored program data—entire programs or files. Computer experts go so far as to warn that virus programs can bring down entire time-share systems in less than five minutes, cripple all computers in a computer lab in less than 20 seconds, and effectively erase all the data on a 30 megabyte hard disk in the amount of time it takes to boot.

These programs that act like viruses are written by people who, by tampering with diskettes, add something that could, for example, cause incredible flashes and sparks to explode on the screen when an unsuspecting user downloads a program; hence, the disk-drive head in such an instance often ruins whatever resided on the disk.

It might be helpful to think of a computer virus and the programmer who clandestinely puts it on a diskette in the framework of what happened to the owner of a brand new luxury car. When he drove it out of the dealer's showroom, he heard an annoying noise. Bringing it back to the dealer, the man complained that a $28,000 car should not make noises. The mechanics went over the car with a fine tooth comb and could find nothing that would cause the noise. Finally, they took the car apart, piece by piece. In the driver's side door panel, ingeniously taped out of sight but suspended in such a fashion that it would hit the

metal door supports behind the automatic window motor, was a rock with a note attached. The note read: "I bet you bastards had a hard time finding this. I'm No. 285 on the assembly line, and this is my way of getting even."

People who write viruses often like the feeling of power that comes from potentially making computers everywhere malfunction. Like the assembly line worker, these virus writers like to brag about having planted the seeds of destruction in a computer program, and like the assembly line worker, they usually leave some kind of clue behind to draw attention to their handiwork.

Although I do not know what type of guidelines have appeared in the computer center at your school, I suspect they are in line with guidelines appearing in an increasing number of computer centers, ranging from admonitions to carefully examine every diskette for evidence of tampering to avoiding copied programs. The prognosis on computer virus prevention is not optimistic: Like viruses that afflict the human body, computer viruses are unavoidable.

PICKING THE RIGHT COMPUTER FOR YOUR NEEDS

My friends tell me that IBM is making a computer that's not compatible with other makes, and that this computer employs an entirely different architecture that will revolutionize computing as we know it. I need some advice on buying a computer for my personal use. Can you help?

P.G.
Kansas City, MO

JETTECH: I can help you by asking you to help yourself. Start out by deciding how you will use your computer. What are you doing or do you need to do that a computer can help you do faster, more efficiently, and better? A good rule of thumb is to assume that although you may think you will use your computer for word processing only, you may find yourself discovering projects suitable for your computer that you cannot even imagine right now. Because an expansion of use

is the inevitable trend, do not buy a computer with very little memory or one that cannot be upgraded into a more powerful machine.

Given today's software programs—many of which are powerful and require a lot of memory—you have two large categories of computers to choose from: IBM or Apple Macintosh. The IBM category includes the many so-called IBM-compatibles or clones. These clones share a common operating system which tells the machine how to read and run various software programs. IBM calls its operating system PC-DOS and the compatibles or clones call theirs MS-DOS. Both programs are similar enough so that they can "talk" to each other. The Apple Macintosh uses an operating system that is dissimilar to PC-DOS and MS-DOS: This means that Apple Macintosh, IBM and IBM-compatibles cannot—most of the time—use the same software. There are software exceptions, however. Microsoft Word, a popular word processor and PageMaker, a leading desk publisher, can be run on both computers.

Whether you should buy IBM (IBM-Compatible) or Apple Macintosh depends on your likes and dislikes. It is generally assumed that you get more power for less money with an MS-DOS machine. If you like working in living color but are unwilling to spend a lot of money to get it, you will have to buy an MS-DOS; only the top-dollar Macintosh models are not monochrome. On the other hand, if you have never used a computer, an Apple Macintosh is probably easier to use, since you move the cursor (the blinking screen locator) by moving a "mouse." Clicking the button on the mouse, starts an operation. Most Macintosh software works the same way. Furthermore, it is well to remember that the Macintosh was designed from the ground up with graphics in mind. Because of this reality, desk-top publishing software is easier to use with Macintosh than with MS-DOS.

IBM has changed the rules with the introduction of a new family of computers called PS/2s. The top-of-the-line PS/2 system adds an entirely new operating system, OS/2. The prognosis and predictions for OS/2 are exciting; if its potential is realized, it will make computers

faster, smarter, and more flexible than has so far been imagined. Will there be PS/2 clones? If one asks IBM, the answer is *no*. IBM claims its PS/2 design will be difficult to emulate. You can think of the top-of-the-line PS/2 as a kind of bridge to tomorrow. As such, it has some significant wrinkles: It uses 3.5-inch floppy disk drives (the industry trend is toward the 3.5-inch floppy disk drive and away from the 5.25-inch) and only the top-of-the-line models 50, 60, and 80 have major improvements and upgrades of the old technology, while the lower priced models 25 and 30 represent only minor improvements.

ANSI STANDARD 2X COUNTERS

Dear JETTECH:

In your interview with Bernie Keach of EEC (Volume 20, #1), he mentions that student decks [the student carrel recorders that are part of the Sony LLC-5510 Learning Laboratory System] have "ANSI Standard 2X Counters." What are ANSI Standard counters? Is this standard applied to most recorders? Is there a relationship between various counters? Would these standards apply to video by any chance?

R.T.
Cambridge, MA

JETTECH: Manufacturers of tape players and recorders (audio and video) for the educational and the consumer markets have, on the basis of market research, the grapevine, or crystal balls, decided that buyers of these machines want to return or skip ahead to certain points on the tape. Whereas Marie Antoinette's solution to the poor having no bread was to "let them eat cake," the electronics industry's solution to our wanting to access the tape wherever we please was to let us have counters.

Counters (audio-and-videotape) can be of two types: 1) the so-called ANSI (American National Standards Institute) counters and the real or actual time counters.

What are ANSI counters? These are the most common type of counters found in today's audio and videotape machines. The numbers that roll up on three or four little wheels are arbitrary numbers which really don't mean much except that they give an approximation of where something is located on the tape. You push the little reset mechanism so that the counter reads 0000 at the beginning of a tape and as the tape plays, the numbers increase. If your favorite passage was at counter reading 5550, and you fast forward or rewind to 5550, you will find your favorite passage more or less. Because ANSI counters are non-synchronous and receive information about how much tape has passed from such things as motor pulses and the manner in which the little wheels move, they only give you approximate locations of points on the tape.

It is well to keep in mind that ANSI counters have come in other than the ordinary, garden-variety wheel type. Even though they are LED's (Light Emitting Diodes) as was the case with the Sony LLC-3000 Learning Laboratory System where counter numbers went blinkidiblink to be seen in the dark, or LCD's (Lead Crystal Diodes) like in the JVC BR1600U VCR (video cassette recorder), they are still ANSI counters: non-synchronous, approximate, and arbitrary.

The other category of counters is called real time or actual time counters. In describing the counter on its audio or video recorders, a manufacturer may put "real" time counter either in the literature or in the specifications. The rub comes with the quotation marks. For example, the older model portable Califone recorders had "real" time counters; little wheels (one of which has a colon which separates the two minute wheels from the seconds wheel). As the tape plays, the wheels could read 28:15 to indicate that 28 minutes and 15 seconds had elapsed. If you sat down with a stop watch and timed the tape along with the counter on the recorder, you would discover why the Califone has a "real" time counter as opposed to a real time counter: The Califone counter is really a non-synchronous ANSI type counter and gives only approximate location of points on the time and not accurate, actual time elapsed.

Real or Actual Time Counters

Recorders with real or actual time counters are synchronous, taking information from time codes on the tape. The numbers they display indicate

actual or real time. A recorder (audio or video) that is also an editing machine will, in all likelihood, have a real time counter. Imagine editing video frames with approximations only! Presently, real time counters are uncommon. If consumers were to demand them, the industry would probably incorporate them into more machines.

Is There a Relationship Between Various Counters?

If there is a relationship among various counters, it may be dubious at best. All non-synchronous ANSI counters locate points on a tape in a similar, arbitrary way, but don't be surprised if your favorite passages on a tape when played in different recorders with ANSI counters are not at identical counter numbers. In fact, the same machine may not "count" them at the same numbers each time. The nature of the ANSI beast is approximation. On the other hand, all synchronous, real time counters, locate points on a tape on the basis of actual time. They all give you the same exact time readings because that information comes from time codes on the tape itself.