ASK THE EXPERTS

Pulse Stretcher Circuit?

Editor,

This may seem like a simple problem, but to this day I have yet to see a design that can do the following. I have a circuit that generates a 20 ns pulse at various peak amplitudes. What I need is a circuit that will take this signal as the input, then output a signal with the exact same peak amplitude, but with a pulse width large enough to digitize (peak detector/pulse stretcher) with an everyday analog-to-digital converter.

I would appreciate any info that would lead me to a circuit that will do this task.

Thank you,

Dave Onuffer
AFRL/MNGS

Investigate Analog-to-Digital Converter (ADC) Performance

Dave,

Because of the requirement of "everyday ADCs," what is needed is a high BW track and hold that is self triggered and can trigger the low BW ADC. Usually the track and hold is integrated into the ADC with a BW/sample rate ratio of about 3:1 to 5:1. It sounds like you need a very high ratio. I suggest investigating the usual ADC houses to see if they have the required chip sets. (Or just use an Agilent Infiniium scope which would not have any problem with this signal!)

Bob Matreci
Signal Analysis R&D Lab
Agilent Technologies

More Writing Suggestions

In response to January 2005 "Ask the Experts" column about engineers and writing, William Cellini Jr. of Ardmore, PA offers these specific resources, references and writing guides:

Societies and Institutions
- Institute for Scientific Information, Philadephia, Pennsylvania
- IEEE Professional Communication Society, Piscataway, New Jersey
- IEEE Standards Board, Piscataway, New Jersey
- American National Standards Institute, New York
- American Institute of Architects, Washington, DC
- National Society of Professional Engineers, Alexandria, Virginia
- Construction Specifications Institute, Alexandria, Virginia

Books and Journals
- *Standards and Standardization,* M. Dekker
- *Writing and Writing Proficiency for Engineers,* McGraw-Hill
- *Patent It Yourself,* TAB Books
- *A Handbook for Inventors,* C. Scribners
- *The Writer's Handbook,* Kalmbach Publishing
- *A Manual for Writers,* University of Chicago Press
- *Lesko's New Tech Sourcebook,* Harper & Row and Information USA
- *Instant Information,* Prentice-Hall
- *New York Public Library Desk Reference,* Hyperion
- *New York Public Library Science Desk Reference,* MacMillan Publishing Company
- *Good Words to You,* Harper & Row
- *How To Talk So People Listen,* Harper & Row
- *Facts on File Science Dictionaries*
- *McGraw-Hill Science Dictionaries*
- *McGraw-Hill Engineering Dictionaries*
- *Encyclopedia of Engineering,* McGraw-Hill
- *Encyclopedia of Science,* McGraw-Hill
- *Elements of Style,* Simon & Schuster
- *Ideas and Information,* W. W. Norton
- *Advent of the Algorithm,* Harcourt
- *How To Think Like Da Vinci,* Delacorte
- *Descriptionary,* Checkmark Books
- *They Have a Word For It,* Sarabande Books
- *You Can Make It Big Writing Books,* Prima Publishing
- *How To Write and Sell Your First Novel,* Writer's Digest Books
- *The World of Words: An Illustrated History of Western Languages,* Sterling Publishing
- *Ideas That Shaped Our World,* Thunder Bay Press
- *World Treasury of Science,* Little, Brown & Co.
- *An Incomplete Education,* Ballantine Books
- *Family Word Finder,* Reader's Digest
- *Success With Words,* Reader's Digest
- *Write Better, Speak Better,* Reader's Digest
- *Consumer Advisor,* Reader's Digest
- *Illustrated Reverse Dictionary,* Reader's Digest

To these, we add our own favorites:
- William Zinser, *On Writing Well,* Harper-Collins
- *The Chicago Manual of Style*, University of Chicago Press (15th edition is current)
- *The IEEE Standard Dictionary of Electrical and Electronic Terms*