

KERMIT NEWS

JULY 1986

VOLUME 1 NUMBER 1

EDITOR'S NOTE

This is the premiere issue of the Kermit Newsletter, printed and mailed at our own expense as a service to those of you who have ordered Kermit tapes, diskettes, or manuals from us over the years and have asked to be informed from time to time about new Kermit releases and other Kermit news. We will try to put as much news as we can into this issue, and hope that the response is sufficient to justify future issues. Kermit programs have been distributed since late 1981. We began by sending tapes on an informal basis at the rate of several per month. By February 1983, the demand had grown so high that we had to begin charging a distribution fee to pay for supplies, postage, and a special staff dedicated to Kermit distribution. The orders continued to increase, and so too did software contributions. By June 1985 we had more Kermit material than we could fit on a 2400' reel of magnetic tape at 1600 bpi. The collection is currently on two tapes, soon to spill onto a third. Meanwhile, the demand for Kermit diskettes in certain popular formats reached a level that allowed us to include them in our distribution. Today, we are shipping more tapes and diskettes than ever before, to points all over the U. S., Canada, Europe, and the rest of the world. Kermit currently runs on more than 200 different machines and operating systems. New versions are continuously developed and old ones improved. If you desired Kermit for a particular system, it might have become available since you last looked. If you have experienced problems with a Kermit program, a newer version may have resolved it. Some of you received your Kermit programs from us years ago, others may have received them more recently. On page 3, you'll find a list of some of Kermit's milestones over the past five years. Elsewhere are short articles describing major Kermit releases and developments in recent months.

MS-DOS KERMIT VERSION 2.29

MS-DOS Kermit has been significantly upgraded by Prof. Joe Doupnik of Utah State University. The new version, 2.29, runs on the IBM PC family and compatibles, and many other MS-DOS systems including the DEC Rainbow, the Heath/Zenith-100, the Hewlett-Packard 110 and 150, the NEC APC, and others. On the IBM PC family, the new version incorporates nearly complete emulation of the DEC VT102 terminal, alongside the Heath-19 and VT52 terminal emulation that was there in previous versions. On all systems, version 2.29 includes complete support for the MS-DOS 2.0 files system in all commands, advanced server functions, and many minor improve-

ments and bug fixes, all in less memory than previous versions required.

Various color adaptors are supported on the IBM PC family, and it is possible to set foreground and background colors and rendition. With proper setup, the program should be compatible with TopView, MS Windows and the like. VT102 emulation is complete except for 132 column mode, smooth scrolling, and printer support. Screen rollback memory has been increased, and a screen dump feature has been added. Future releases may include support for scripts, dialers, long packets, and sliding windows.

KERMIT BOOK PUBLISHED BY DIGITAL PRESS

"Kermit, A File Transfer Protocol," by Frank da Cruz, is being published by Digital Press. This new book is a comprehensive guide to Kermit. It includes historical background and motivation, tutorials in data communications and file systems, a command reference, a troubleshooting guide, and a specification of the Kermit protocol, with C language program fragments to illustrate each aspect of the protocol. The book includes numerous illustrations, diagrams, and tables, as well as some analysis of Kermit performance and comparison with other protocols. It will be available in August, 1986 at your local computer bookstore, by mail order with most major credit cards from Digital Press, Educational Services Order Processing, Digital Equipment Corporation, 12A Esquire Road, Billerica, MA 01862 (U.S. orders only; Order # EY-6705E-DP), or from Kermit Distribution at Columbia University (U.S. and foreign orders, see enclosed order form). The cost is \$25.00 U.S.

C-KERMIT

In February 1985 a modular, portable version of Kermit was written in the C language. This program is expected to be the basis of most new Kermit development. Isolation of the system-specific functions into special modules, and the user interface, protocol, and other system-independent functions into others, has allowed the program to be adapted easily to a variety of UNIX systems (AT&T, Berkeley, and others), VAX/VMS, the Apple Macintosh, the Commodore Amiga, and others. The current release is 4D(060).

THE TOP FIVE KERMIT QUESTIONS

Q. *How can I get Kermit onto my PC if I can't find a diskette with Kermit already on it?*

A. You'll have to "bootstrap" Kermit from a mainframe onto your PC. You can use a file capture method or another file transfer protocol to transfer the file if either is available. Or you can use or adapt the "baby Kermit" BASIC program listed in the bootstrapping section of the Kermit book. But it's always better to get Kermit on a diskette in the first place. We encourage people who have Kermit versions in diskette form to donate copies to user groups who can distribute them to others. Columbia is now able to provide Kermit for selected systems on diskette; this include the IBM PC and compatibles, the DEC Rainbow, and the Apple Macintosh.

Q. *I can transfer text files without any problems but why can't I seem to transfer binary files?*

A. Look at the documentation for your Kermit version to see whether it has the capability to transfer binary files. If it does, be sure to SET FILE TYPE BINARY (or the equivalent) before sending the file. If that doesn't work, try SET PARITY with the prior command.

Q. *How can I use Kermit on a PC in conjunction with an IBM mainframe 3270 protocol converters?*

A. You may use Kermit as a terminal emulator on a PC with IBM mainframes in either line mode, or through a protocol converter in full screen mode. But you can only transfer

files through Series/1 style protocol converters running the Yale ASCII Communication Program. These include the Series/1 itself, the 7171, and the 4994.

Q. *Is there a Kermit version for the IBM System 34136138, or DOS/IVSE?*

A. No, because these systems do not support asynchronous communication.

Q. *I am trying to transfer files between the PC and an IBM mainframe but the transfer always fails at the same packet. What should I do?*

A. First try changing parity to something other than what it is. If this does not work then there is probably a conflict between the ASCII/EBCDIC translation table your IBM mainframe uses, and the one the Kermit program is using. These two tables have to agree. IBM mainframe Kermit programs use the table from the IBM System 370 Reference Card.

MAC KERMIT 0.8(34)

Macintosh Kermit VT102 emulation was improved in March 1986 by Davide Cervone of the University of Rochester by the addition of a VT100-style font, fixing the problems which previous releases had with boldface, graphics, and other special effects. The new release also includes a mouse-directed cursor mechanism. Mac Kermit is available on diskette from Kermit Distribution (see the order form on page 5 for more information).

PROTOCOL EXTENSIONS

The Kermit file transfer protocol has proven adaptable to a wide variety of systems and data communication setups, in large part because of its stop-and-wait technique of exchanging relatively short packets. However, now that Kermit is seeing increasing use on public packet-switched networks and other connections with built-in delays, performance has become a more important issue. To improve Kermit's file transfer speeds, two extensions have been made to the protocol: sliding windows and long packets. The sliding window extension allows packets to be sent in both directions simultaneously over a full duplex communication link, with up to 31 unacknowledged packets allowed at any given time. In practice, this allows for practically continuous transmission, cutting the interpacket delay overhead down to practically nothing. Sliding Windows programs (a version of C-Kermit for PC-DOS and a new Prime Kermit) are currently available for distribution. On half duplex connections, where it is not possible to transmit in both directions simultaneously, a new method is provided to extend packets to a maximum length of about 9000 characters. A new release of PDP-11 Kermit (3.50), has long packet support. These extensions are finding their way into new Kermit programs.

VAX/VMS KERMIT-32 Version 3.2

Many Kermit users who have been using VAX/VMS Kermit version 3.0 or earlier have noticed that many functions of the program stopped working when they upgraded their version 3 VMS operating systems to version 4. These problems were fixed in version 3.1 of Kermit-32, released by Stevens Institute VAX Technology in April 1985. Release 3.2 (May 1986) added some additional features and eliminated most reported bugs.

KERMIT'S EARLY HISTORY

- 4/81 Basic Kermit protocol designed at Columbia Univ.
 - 5/81 First Kermit programs, for DEC-20 and CP/M
 - 11/81 Columbia ships first Kermit tape
 - 2/82 Support for more systems added to CP/M-80 Kermit
 - 3/82 First Kermit program for IBM mainframe, VM/CMS
 - 4/82 Kermit in Pascal for PDP-11 from Univ of Toronto
 - 5/82 Kermit first presented at DECUS
 - First C-language Kermit program (for UNIX)
 - 10/82 IBM PC DOS Kermit V1.0 from Columbia
 - Kermit for DEC-10 from Stevens Institute of Tech
 - 1/83 VAX/VMS Kermit V1 from Stevens
 - 4/83 Apple II DOS Kermit V1 from Stevens
 - Info-Kermit network mailing list begins
 - BITNET and Internet Kermit file distribution begin
 - 5/83 Distribution fee instituted for Kermit tapes
- More Recent History**, in which new Kermit implementations, and new releases of old ones, are contributed from all over the world at an ever-increasing rate. Space permits listing only some of the major contributions, without credit:
- 10/83 CP/M-86 Kermit for DEC Rainbow, NEC APC, et al
 - DEC-10 & VAX/VMS Kermit Servers
 - HP-98x6 Pascal Kermit
 - 12/83 Honeywell MULTICS Kermit
 - Sperry 1100 Kermit (Assembler)
 - 1/84 IBM 370 MTS Kermit
 - Atari Home Computer Kermit
 - 2/84 Prime Kermit
 - UCSD p-System Kermit for IBM PC, Terak, others
 - 3/84 V2.16 PDP-11 Kermit for RSTS, RSX, RT11
 - 5/84 MUMPS-11 Kermit
 - Info-Kermit Digest V1 #1
 - Version 2.0 CDC Cyber Kermit
 - V3.0 VMS Kermit
 - DEC Pro-350 P/OS Kermit
 - 6/84 Software Tools Ratfor Kermit
 - BYTE Magazine Kermit article appears
 - 7/84 HP-1000 RTE/6 Kermit
 - Apollo Aegis Kermit
 - IBM MVS/TSO Kermit (Assembler)
 - MS-DOS Kermit V2.26 for IBM PC, DEC Rainbow, HP-150, Wang PC, Generic MS-DOS
 - 8/84 TRS-80 TRSDOS Kermit V3.5
 - 9/84 Data General RDOS and AOS Kermits
 - Apple II DOS Kermit V2.1A
 - Columbia ships 1000th Kermit tape
 - 10/84 Honeywell DPS8 GCOS Kermit V3.0
 - Sperry 1100 Pascal Kermit V2.0
 - 12/84 CP/M-86 Kermit V2.9 for DEC Rainbow, etc
 - MS-DOS Kermit V2.27 for IBM PC, DEC Rainbow, etc
 - ICL Perq Pascal Kermit v2.0
 - 2/85 C-Kermit 4.0, portable, full-feature Kermit for UNIX
 - Cray-1 Kermit

- Commodore-64 FORTH Kermit
- Data General AOS/VS Pascal Kermit
- Harris 800 Kermit
- Alpha Micro 68000 Kermit
- Burroughs B6800 Kermit
- CP/M-80 Kermit V4.05 for many systems
- 3/85 Kermit for IBM 370 MVS/TSO, Series/1 front end
 - TRS-80 Color Computer DOS Kermit
 - DECSYSTEM-20 Kermit V4.2
- 4/85 VAX/VMS Kermit V3.1 (required for VMS V4)
- 5/85 C-Kermit 4C, with support for UNIX, VAX/VMS, and Apple Macintosh
 - IBM 370 VM/CMS Kermit 2.01 with Series/1 support, server mode, binary files, etc
- 6/85 Perkin Elmer 3200 OS/32 Kermit
 - Sperry 1100 Assembler Kermit V2.2
 - MS-DOS Kermit 2.28 for IBM PC, DEC Rainbow, etc.
 - HP-3000 MPE Kermit V1.1
 - Columbia fills 2000th tape order
 - Kermit distribution expands to two tapes
- 7/85 Sliding window and long packet protocol extension
 - PDP-8 Kermit
- 9/85 Lisp Machine and Symbolics 3600 LISP Kermit
 - Commodore-64 DOS Assembler Kermit V1.7
 - OS9 Kermit for TRS-80 CoCo and others
 - HP-1000 RTE-A Kermit
 - iRMX-86 Kermit
- 10/85 Pascal/VS Kermit for IBM VM/CMS
- 11/85 Burroughs B7900 Kermit
- 12/85 IBM 370 MUSIC Kermit
- 2/86 6809 Flex Kermit
 - Turbo Pascal Kermit for IBM PC, Apple II, Kaypro
- 3/86 Macintosh Kermit 0.8(34)
 - Gould/SEL-32 MPX Kermit
- 4/86 VAX/VMS Kermit 3.2
 - Tandem Nonstop Guardian Kermit
 - TRS-80 Model 4 TRSDOS Kermit V5.0
 - DECsystem-10 Kermit V3.0
 - CDC Cyber Compass Kermit V1.0
 - ICL 2900 Kermit
 - PDP-11 Kermit V3.50 with long packet support
 - Columbia fills 3000th tape order
- 5/86 C-Kermit 4D for UNIX, VMS, Apple Macintosh, and Commodore Amiga
 - MS-DOS Kermit 2.29 (see article)
 - Prime and WKermit with Sliding Windows extension available for distribution.
- 7/86 First Kermit Newsletter published
- 8/86 Digital Press publishes the Kermit book.

The Kermit Newsletter is published periodically free of charge by Columbia University, Center for Computing Activities, 612 West 115th Street, New York, NY 10025.

*Editor: Christine Gianone
Graphics: Maurice Matiz*

The Kermit File Transfer Protocol is named after Kermit the Frog, star of the television series The Muppet Show, used by permission of Henson Associates, Inc.

ORDERING INFORMATION

The Kermit software - including source - is furnished free, without license, or restrictions on copying or redistribution provided that it is not sold for profit, and that any copyright notices are left intact. Kermit software and documentation is furnished without warranty of any kind. Neither Columbia University, nor the individual authors, nor any institution that has contributed Kermit material, acknowledge any liability for any claims arising from the use of Kermit. Furthermore, it must be stated that the quality of the Kermit programs varies - some are polished, well-documented professional products while others are not. Kermit programs are contributed by public-spirited volunteers, and Columbia University does not wish to discourage such contributions by subjecting them to a rating system. Since source code is provided for all implementations, users may make improvements or write documentation where it is lacking. Everyone is encouraged to contribute their work back to Columbia for further distribution. From such contributions Kermit has grown from an individual project to a program used around the world on over 200 different machines and operating systems.

Once you receive Kermit, you may copy and redistribute it on your own terms, and are encouraged to do so, with the following stipulations: Kermit should not be sold for profit; credit should be given where it is due; and new material should be sent back to Columbia University so that we can maintain a definitive and comprehensive set of Kermit implementations for further distribution.

There are two separate Kermit tapes, A and B. As of June 1985 there are too many Kermit files to fit on a single tape. All tapes are half-inch, 2400-foot, 9-track, 1600bpi, odd parity. They are available **ONLY** in the following formats:

ANSI:	ANSI labeled ASCII, format D (variable length records)
TAR:	UNIX TAR format (written on a VAX with 4.2bsd or Ultrix-32)
OS:	IBM OS standard labeled EBCDIC, format VB (variable length records)
CMS:	IBM VM/CMS VMFPLC2 format (unlabeled)
DEC-10:	DECsystem-10 Backup/Interchange format (unlabeled)
DEC-20:	DECSYSTEM-20 DUMPER format (unlabeled)

Blocksizes, when applicable, are our choice and will be in the range 8K-10K. **NO OTHER FORMATS ARE AVAILABLE.** If none of the above formats looks familiar to you, then specify ANSI. This is an industry standard format that should be readable by any computer system. VAX/VMS sites should request ANSI tapes; these are compatible with VMS MOUNT and COPY commands.

TAPE "A" CONTAINS:

- The microcomputer (PC, workstation) Kermit implementations
- The Info-Kermit mail archive
- Other documentation of a general nature

TAPE "B" CONTAINS:

- The mainframe and minicomputer Kermit implementations
- The Kermit User Guide
- The Kermit Protocol Manual

Kermit diskettes may also be ordered in certain formats; see the order form on page 5.

TO ORDER KERMIT, fill out the Kermit Order Form and send it to:

Kermit Distribution
 Columbia University Center for Computing Activities
 612 West 115th Street, 7th Floor
 New York, NY 10025 (USA)

North American orders are shipped by package service or first class U.S. mail, and shipping costs are included.

Overseas orders are shipped first class US mail; an additional shipping charge is required. Orders are normally processed within 2 - 4 weeks of receipt, but firm delivery schedules or methods cannot be guaranteed.

KERMIT ORDER FORM:

Additional Information (no charge):

Complete list of versions, statement on commercial use and distribution, order form, list of alternate Kermit diskette sources.

Check each desired Kermit Distribution Tape, \$100.00 PER TAPE:

Format:	ANSI	TAR	OS	CMS	DEC-10	DEC-20
Tape A (micros):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tape B (mainframes):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For PRIME Computers: Specify ANSI and check here to request a short ANSI-tape-reader program listing (no charge).

Tape Subtotal (number of tapes times \$100.00) \$ _____

Kermit programs on diskette, no source code, \$10.00 each:

- Apple Macintosh \$ _____
- DEC Rainbow; CP/M-86 (RX50) \$ _____
- DEC Rainbow; MS-DOS (RX50) \$ _____
- IBM PC, XT, and AT; PC-DOS (5 1/4" DS DD) \$ _____

Diskette Subtotal \$ _____

Book: "Kermit, A File Transfer Protocol," by Frank da Cruz, Digital Press, softcover, \$25.00 (available August) \$ _____

Printed documents \$5.00 each, enter quantity:

- Kermit User Guide \$ _____
- Kermit Protocol Manual \$ _____
- BYTE article manuscript \$ _____

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If you CANNOT prepay with a check, include BOTH:

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Columbia University Center for Computing Activities

Check here for a Columbia University DECSYSTEM-20 account application form. A CU20B account will allow you to read the Info-Kermit electronic newsletter, and to use Kermit itself to obtain new releases of Kermit.

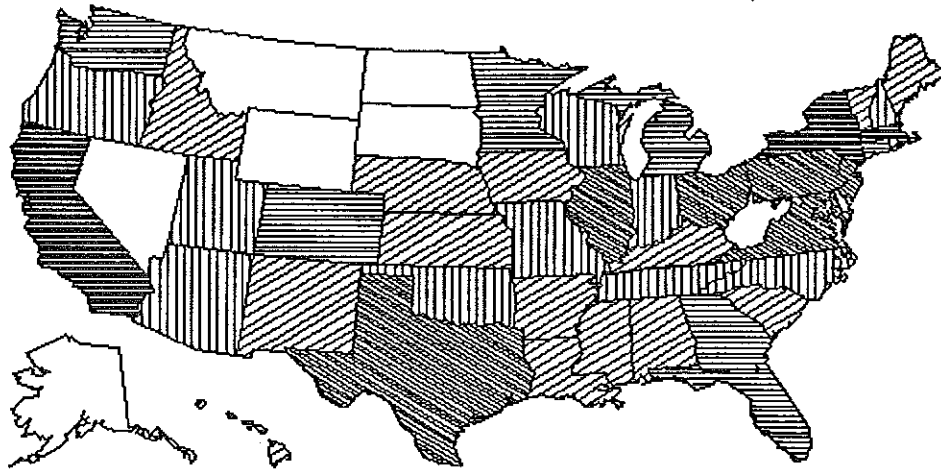
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