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Subject: xmodem-1K, ymodem, or zmodem  
Posted by [lynchaj](#) on Wed, 28 Jul 2021 14:23:04 GMT  
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Hi

One of the first programs often ported to a new RBC system is xmodem usually right after the debugger and CP/M-2.2. I have been using xmodem 5.0 for many years and while it works great at what it does the decision to use 128 byte packets rather hobbles it due to a lot of overhead. Also it does not support automatic file names or start up or many other advanced features. Kermit is an improvement but still pretty slow compared to the more advanced file transfer protocol programs.

I recall using xmodem-1K, ymodem, and zmodem on the IBM PC clones many years ago and they are much faster and more capable than the original xmodem. Are any of these available for CP/M-80 2.2? I've seen there is a terminal program for CP/M which supports zmodem (ZMP) but I think I am looking for something the other way around. Normally I use minicom on a Linux notebook as a terminal to the Z80 MBC and xmodem as the file transfer tool.

Has anyone used ZMP? <https://github.com/mecparts/zmp> can it be used as just a file transfer program?

Like to hear people's thoughts and wisdom on this subject. I am hoping there is some great but unnoticed file transfer program available

Thanks, Andrew Lynch

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [edzard](#) on Wed, 28 Jul 2021 15:11:01 GMT  
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Hello Andrew,

There is a program called FIFOPIPE. It's developed by William Sowerbutts. I never used it (but want too, when I get my Z80 up-and-running).

Don't know if it works standalone or in conjunction with his USB FIFO board.

[https:// www.retrobrewcomputers.org/doku.php?id=boards:ecb:usb-fifo:s](https://www.retrobrewcomputers.org/doku.php?id=boards:ecb:usb-fifo:s) tart

Best regards,

Edzard

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [scruss](#) on Wed, 28 Jul 2021 18:56:24 GMT  
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In a great piece of software asymmetry, I've found that XMODEM5 supports sending files using xmodem-1k, but rx on linux doesn't support xmodem-1k.

zmodem's file name support was magic. Use a terminal that auto-detected incoming downloads, you didn't have to worry about missing a download

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [lynchaj](#) on Thu, 29 Jul 2021 10:15:15 GMT  
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scruss wrote on Wed, 28 July 2021 14:56 In a great piece of software asymmetry, I've found that XMODEM5 supports sending files using xmodem-1k, but rx on linux doesn't support xmodem-1k.

zmodem's file name support was magic. Use a terminal that auto-detected incoming downloads, you didn't have to worry about missing a download

Hi

Well that explains why xmodem-1K never works on my Linux notebook computer. Always wondered why and now I know. Thanks!

Has anyone tried ZMP for CP/M? What did were the results? It looks like it will need to be configured and compiled using a specific C compiler but that's just a quick observation and may not be the case

Thanks, Andrew Lynch

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [b1ackmai1er](#) on Sat, 31 Jul 2021 18:06:59 GMT  
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Hi Andrew,

I got stuck on this previously too but ended up using kermit for transferring bulk files with filenames. I found it pretty awful but it must have been a tool that solved a problem in it's era.

A tonne of work has been done on hitech-c <https://github.com/agn453/HI-TECH-Z80-C> so maybe a rebuild would not be that difficult.

Best Wishes Phil.

Best wishes Phil.

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [b1ackmai1er](#) on Wed, 11 Aug 2021 14:41:38 GMT  
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I had a shot at getting zmp15 ( <http://cpmarchives.classiccmp.org/cpm/mirrors/oak.oakland.edu/pub/cpm/zmodem/>) working under ROMWBW.

I've created a ROMWBW overlay and get some screen output and serial modem initialization on the output but get not further input or output.

Was wondering if anyone else had any experience or had a working version on any platform?

Thanks.

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### File Attachments

- 1) [zmp.png](#), downloaded 1495 times
  - 2) [zmp-blk.z80](#), downloaded 276 times
- 

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [lynchaj](#) on Wed, 11 Aug 2021 15:20:48 GMT  
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Hi Phil  
Awesome! I think ZMP will be a great addition to RomWBW

Thanks, Andrew Lynch

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [Wayne W](#) on Thu, 12 Aug 2021 00:47:54 GMT  
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Hi Phil,

This is interesting.

Could it just be that XMP is waiting for the typical "OK" response from a Hayes modem?

-Wayne

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Subject: Re: xmodem-1K, ymodem, or zmodem

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Posted by [b1ackmai1er](#) on Thu, 12 Aug 2021 13:46:45 GMT

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Hi Wayne, thanks, yes I tried that but it is not expecting an OK response.

Managed to make some progress. Amongst other things, the main issue was that registers saves were required.

Program now functional but no successful transfer. Currently hard coded to my usbfifo cio. Happy with progress so far.

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### File Attachments

1) [zmpxfer.png](#), downloaded 1477 times

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Subject: Re: xmodem-1K, ymodem, or zmodem

Posted by [Wayne W](#) on Thu, 12 Aug 2021 19:34:37 GMT

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OK, Phil. Hope you can get it working.

-Wayne

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Subject: Re: xmodem-1K, ymodem, or zmodem

Posted by [b1ackmai1er](#) on Thu, 19 Aug 2021 14:49:49 GMT

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Hi Guys, Need some help with this...

I've attached mecparts.lbr which is the redevelopment version of zmp and also the hbios overlay.

Zmodem send works but I can't get receive to work.

Would someone be able to try this out and confirm they get the same results? You need a second serial port to try this.

Library includes the overlay source, which is already installed in zmp.com.

You can install an updated overlay by using

```
z80asm zmo-rw01/h
```

```
mload zmp.com=zmpx.com,zmo-rw01
```

I tried this on the original zmp15 package and get the same results.

Unsure if it has something to do with my serial port which is a usb-fifo.

Thanks!

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## File Attachments

1) [mecparts.lbr](#), downloaded 290 times

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Subject: Re: xmodem, ymodem, zmodem

Posted by [jayindallas](#) on Fri, 20 Aug 2021 13:26:39 GMT

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These three names X/Y/Zmodem invoke memories of the CP/M+Modem experiences of the 80s. This sequence equate into the cringe of getting a remote connection to a computer I fixed up for my parents, so I could transfer a file to their system. Their system had 8" drives, mine were 5.25" drives, so it was better if I could send the files to their computer before I arrived to install it.

With X-modem and a one-phoneline household at the remote end, I had to spend 30 minutes to an hour telling them the keyboard sequence they'd have to type once they hungup the phone and activated the modem for my call... plus all the trial and error of their keystrokes and the many attempts to start-over. It was so nearly impossible that I paid to put a second phoneline in their house for the modem, so I could live-chat them through the process. I liked X-Modem in general, but these particular transfers still haunt me. :)

Y-modem was nice improvement. The walkthrough time seems like it dropped to 15 to 5 minutes. In comparison to X-Modem it seemed like the ultimate improvement... at the time.

Z-Modem was THE REAL great improvement, I just had to tell them to turn the modem on and I could handle most everything on my end of the call.

I don't remember much about the modem commands I had to talk them through, back in the day, my memory of them are all about the time it took to get my parents to enter the necessary commands on their side of the connection.

Glad that doesn't need to happen anymore. :)

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Subject: Re: xmodem-1K, ymodem, or zmodem

Posted by [Wayne W](#) on Sat, 21 Aug 2021 02:47:59 GMT

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b1ackmai1er wrote on Thu, 19 August 2021 07:49Hi Guys, Need some help with this...

Zmodem send works but I can't get receive to work.

Would someone be able to try this out and confirm they get the same results? You need a second serial port to try this.

I will play with this tomorrow Phil.

-Wayne

---

Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [Wayne W](#) on Sat, 21 Aug 2021 19:36:06 GMT  
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Hi Phil,

I was ultimately successful. Initially, I found that I could do XModem send or receive and YModem send or receive. I could, as did you, do ZModem send. When I tried ZModem receive, I got "Subpkt too long" errors (see first screenshot). After some head scratching, I found that Tera Term has a ZModem parameter called "ZmodemWinSize". It was set to 32767 in the default configuration. I changed this to 4096, and ZModem receive began to work. This setting applies to the remote side of the connection. See the second screenshot.

Oh, I should mention that the ZmodemWinSize setting in Tera Term is found in the .INI file that Tera Term uses to save settings. It is not found anywhere in the user interface itself, so you need to edit the .INI file directly.

The obvious conclusion from all this is that modern implementations of ZModem assume a larger working buffer on the other side than is reasonably available on an 8-bit system. This was an interesting challenge.

Anyway, hope this is helpful. ZMP appears to be a truly worthwhile application.

Thanks for working on this!

-Wayne

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### File Attachments

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- 1) [ZModem Success.png](#), downloaded 1181 times
  - 2) [ZModem Error.png](#), downloaded 1324 times
- 
-

Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [b1ackmai1er](#) on Sun, 22 Aug 2021 01:15:17 GMT  
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---

Thanks Wayne!

I had tried these settings on my machine

```
ZmodemDataLen=128  
ZmodemWinSize=4096
```

which improved but did not resolve the issue.

I tried swapping the CIO order but that is giving me some weirdness, so it looks like an issue with my machine/configuration.

Did you want submit as an app or as a build package for romwbw?

Thanks for your help.

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [plasmo](#) on Sun, 22 Aug 2021 02:04:36 GMT  
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I, too, need help.

extract mecparts.lbr with LU310.com to drive A

I modified ZmodemWinSize=4096

My hardware is ZRC with 14.7MHz clock running a version of ROMWBW that loads ROM & RAM contents to 2meg DRAM. The serial port is emulated 68B50.

When run ZMP, I get:

```
Initializing port ...
```

```
Unable to initialize port A
```

I edited zmo-rw01.z80 and changed the clkspd to 15 and reassemble according to the instruction:

```
z80asm zmo-rw01/h
```

```
mload zmp.com=zmpx.com,zmo-rw01
```

But I still have the same "Unable to initialize port A" message

Maybe my hardware is just too weird. Tell me what kinda hardware you are using and I'll try to match.

Bill

## File Attachments

1) [zmp\\_unable\\_to\\_initialize.jpg](#), downloaded 1250 times

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [Wayne W](#) on Sun, 22 Aug 2021 03:04:43 GMT  
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---

plasma wrote on Sat, 21 August 2021 19:04l, too, need help.

extract mecparts.lbr with LU310.com to drive A  
I modified ZmodemWinSize=4096

My hardware is ZRC with 14.7MHz clock running a version of ROMWBW that loads ROM & RAM contents to 2meg DRAM. The serial port is emulated 68B50.

When run ZMP, I get:

```
Initializing port ...  
Unable to initialize port A
```

Hi Bill,

I think the ZRC has just a single serial port, right? ZMP requires that the communication port be different from the console port. It looks like Phil has implemented the ZMP serial driver so that communication port A is actually the second serial port in the system. Port B would be third serial port. So, I suspect the initialization error is simply that there is no serial port there.

@Phil: It looks like ZMP has some concept for choosing the communication port, but I was unable to figure it out. Do you know how to choose ZMP port B, etc.?

Thanks,

Wayne

---

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [b1ackmai1er](#) on Sun, 22 Aug 2021 09:06:43 GMT  
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---

Hi Bill, Wayne,

The version of zmodem I have attached is <https://github.com/mecparts/zmp> which is re-implementation of zmp based on the last available code release of Ron Murray's zmp. One of the changes in this reimplementatation is that it does not support multiple ports. i.e. it only supports console and one comm. port.



The driver still supports ability to switch ports (Two comm. ports - A & B) and can be used with the original zmp but both versions do require a separate comms. port for the transfer, separate to the console.

Also, this version is coded for romwbw so speed determination is obtained from the hbios - clkspd equate is unused. On the ZRC there is only one character input-output device (console) which is why you are getting the error initializing port A which is defined as the second character input output device. So you need two serial ports for this to work.

Regards Phil.

---

Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [b1ackmai1er](#) on Sun, 22 Aug 2021 10:46:08 GMT  
[View Forum Message](#) <> [Reply to Message](#)

This is the original Ron Murray zmp15 with the romwbw overlay that supports port switching.

This does not work for me either. overlay may be slightly different to original one I posted.

Regards Phil.

Edit:removed - still had debug code in it. will reupload later.

---

Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [Wayne W](#) on Sun, 22 Aug 2021 14:01:20 GMT  
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b1ackmai1er wrote on Sat, 21 August 2021 18:15I had tried these settings on my machine

```
ZmodemDataLen=128  
ZmodemWinSize=4096
```

which improved but did not resolve the issue.

I tried swapping the CIO order but that is giving me some weirdness, so it looks like an issue with my machine/configuration.

Hmmm... that's disappointing. I think you said you are using your USB-FIFO interface. I am going to try some other systems with different serial hardware and see if anything changes for me. I was using my Mark IV system for testing. The console was on the first ASCII port. I used John

Coffman's 4 port serial board for the communication port. I hacked the proper port value into the overlay to achieve this.

b1ackmai1er wrote on Sat, 21 August 2021 18:15: Did you want to submit as an app or as a build package for romwbw?

I think I would prefer to have a build package. Similar to the way that XM is built. If I understand correctly, it will require Hi-Tech C, right? That will require some work because it probably means adding some files to the Tools/zx/cpm/... directories.

Before submitting a pull request, could you describe what is needed?

Thanks,

Wayne

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [Wayne W](#) on Sun, 22 Aug 2021 14:08:28 GMT  
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b1ackmai1er wrote on Sun, 22 August 2021 02:06: The version of zmodem I have attached is <https://github.com/mecparts/zmp> which is a re-implementation of zmp based on the last available code release of Ron Murray's zmp.

One of the changes in this reimplementation is that it does not support multiple ports. i.e. it only supports console and one comm. port.

Ah, OK, that explains it. I saw the setport routine in the overlay, but no way to use it and it did not seem to be getting invoked. It was confusing.

b1ackmai1er wrote on Sun, 22 August 2021 02:06: The driver still supports ability to switch ports (Two comm. ports - A & B) and can be used with the original zmp but both versions do require a separate comms. port for the transfer, separate to the console.

OK. It is odd that the functionality was dropped. I think it is important to have such functionality. However, I am worried about losing the latest updates in the code. I don't suppose the serial port switching could be crafted back into the latest? Also, I think there is a bit more complication to this. The console is not guaranteed to be on HBIOS unit Char 0. ZMP should use the current console unit for the console (which I think it should automatically) and then allow using any other port for communications. This means comparing the requested port with the current console unit and disallowing the use of the console unit. I can do this if you like. [/quote]

This is great work. Thanks Phil.

-Wayne

Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [Wayne W](#) on Sun, 22 Aug 2021 14:09:56 GMT  
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---

b1ackmai1er wrote on Sun, 22 August 2021 03:46 This is the original Ron Murray zmp15 with the romwbw overlay that supports port switching.

This does not work for me either. overlay may be slightly different to original one I posted.

Regards Phil.

Edit:removed - still had debug code in it. will reupload later.

No rush. Do you have any idea how much changed between these two versions?

-Wayne

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [Wayne W](#) on Sun, 22 Aug 2021 14:13:45 GMT  
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b1ackmai1er wrote on Sun, 22 August 2021 02:06  
So you need two serial ports for this to work.

This is really testing my memory, but I thought I saw that there was a variant of ZMP that was specifically intended for "dial in" operation. This would mean that it would be launched from and use the console port. It would not require the second serial port.

Have you seen such a thing? I may go looking for it later. I assumed it used the same overlay structure, so would be easy to adapt your current work.

Thanks,

Wayne

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [lynchaj](#) on Sun, 22 Aug 2021 16:37:42 GMT  
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Hi  
Thank you for working on this. I think ZMP will be a great addition to RomWBW and be a big help for a lot of RBC operators. Also if we're going to build ZMP using H-Tech C and adding it to

RomWBW that's a double win. Very good news indeed! Congratulations on your success!

Yay! Thanks! Andrew Lynch

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [plasmo](#) on Sun, 22 Aug 2021 18:56:55 GMT  
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Wayne W wrote on Sun, 22 August 2021 08:13b1ackmai1er wrote on Sun, 22 August 2021 02:06  
So you need two serial ports for this to work.  
This is really testing my memory, but I thought I saw that there was a variant of ZMP that was specifically intended for "dial in" operation. This would mean that it would be launched from and use the console port. It would not require the second serial port.

Have you seen such a thing? I may go looking for it later. I assumed it used the same overlay structure, so would be easy to adapt your current work.

Thanks,

Wayne

ZRC only has one serial port so I'm interested in the version of ZMP that use the console to transfer files. Since there are RC2014 users running ROMWBW with Z80, 68B50 and 512KRAM\_ROM boards, ZMP that uses console is of interest to the RC2014 community. Having said that, I also have Z80+SIO+512KRAM\_ROM setup to try out ZMP.  
Bill

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [agn453](#) on Mon, 23 Aug 2021 05:37:55 GMT  
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Wayne W wrote on Mon, 23 August 2021 00:13b1ackmai1er wrote on Sun, 22 August 2021 02:06  
So you need two serial ports for this to work.  
This is really testing my memory, but I thought I saw that there was a variant of ZMP that was specifically intended for "dial in" operation.

Wayne,

My ancient memory was sparked...

The remote version of Ron Murray's Z-Modem was called RZMP - and it required BYE support.

You can find it on the Walnut Creek CD for CP/M - look for rzmp16.lbr

Tony

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [lynchaj](#) on Mon, 23 Aug 2021 13:23:06 GMT  
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Hi,  
OK my memory is pretty rusty on this too. What is BYE support?

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [Wayne W](#) on Mon, 23 Aug 2021 18:10:28 GMT  
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lynchaj wrote on Mon, 23 August 2021 06:23Hi,  
OK my memory is pretty rusty on this too. What is BYE support?

BYE is a pre-defined communications interface that was used by BBS software to interact with modems. You can think of it as a generic overlay. The interface extended BDOS with some calls that allowed direct interaction with communication ports/modems.

I think I looked into adding this to RomWBW at one point, but it was a bit more complex than just using an overlay for XModem, etc.

-Wayne

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [lynchaj](#) on Mon, 23 Aug 2021 18:32:39 GMT  
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Thanks!

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Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [lynchaj](#) on Tue, 12 Oct 2021 11:13:21 GMT  
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agn453 wrote on Mon, 23 August 2021 01:37Wayne W wrote on Mon, 23 August 2021  
00:13b1ackmai1er wrote on Sun, 22 August 2021 02:06  
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My ancient memory was sparked...

The remote version of Ron Murray's Z-Modem was called RZMP - and it required BYE support.

You can find it on the Walnut Creek CD for CP/M - look for rzmp16.lbr

Tony

Hi

Has anyone tried RZMP on CP/M? If so, how did it work? Here is a link for the library file

<http://www.retroarchive.org/cpm/cdrom/JSAGE/ZNODE3/MODEM/RZM P16.LBR>

Thanks, Andrew Lynch

---

Subject: Re: xmodem-1K, ymodem, or zmodem  
Posted by [lynchaj](#) on Tue, 12 Oct 2021 11:27:50 GMT  
[View Forum Message](#) <> [Reply to Message](#)

edzard wrote on Wed, 28 July 2021 11:11Hello Andrew,

There is a program called FIFOWARE. It's developed by William Sowerbutts.  
I never used it (but want to, when I get my Z80 up-and-running).

Don't know if it works standalone or in conjunction with his USB FIFO board.

[https:// www.retrobrewcomputers.org/doku.php?id=boards:ecb:usb-fifo:s tart](https://www.retrobrewcomputers.org/doku.php?id=boards:ecb:usb-fifo:s tart)

Best regards,

Edzard

Hi

Has anyone used this USB FIFO board? What was the transfer speed given all the other constraints of the system such as software, hardware, etc.? The wiki says it is an 8 bit clean path and ignores UART settings. Does anyone know what are the actual transfer speeds? I presume it is much faster than 9600 bps.

I am wondering if this board or something similar to it should be ported to the Z80 MBC system and if it would be better than existing solutions.

Thanks, Andrew Lynch

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