PMON_lzh.exe

User Manual   V 1.0.4 (16/Sep/2019)

1. Basics

PMON_lzh.exe (**PMON_LZH**) is a monitoring tool for **SCS PACTOR modems** under Windows operating systems (simple command line tool). It can parse the packets received/output by the modem's "**PMON**" tool and extract and save the included payload. It also allows the payload to be examined for **LZHUF compressed** portions and, if necessary, automatically decompressed "**on the fly**", as soon as enough data (60 bytes) has been received. There is no need to capture a whole compressed file for this purpose, but the decompression already takes place "on the fly", **packet by packet**, until a (radio) data packet is missing. Then PMON_lzh.exe aborts on-going decompression of the currently received file and searches again for the beginning of a new compressed transmission.

There are two different modes, **FILE MODE** and, **AUTO-CAPTURING MOD**E (continuous reception).

2. Settings and Operation

You have to open a "DOS Window" or the Windows command interpreter for starting PMON_lzh.exe! It is a command line application.

2.1 FILE MODE

If a **filename** is specified as the command line argument when the PMON_LZH tool is started, it automatically extracts all payload portions contained in the received PMON "packets" and automatically decompresses LZHUF-compressed messages that are detected.

Example:

pmon_lzh capturefile.txt <Enter>

"capturefile.txt" is a text file that, for example, can be generated using a simple terminal program like Coolterm:

https://freeware.the-meiers.org/

To do this, the terminal must be connected to the modem, PMON manually started, and finally all outputs of PMON stored in a text file.

PMON_LZH creates a new file when parsing the capture file, which always starts with the prefix "**decompressed_**". It automatically appends this prefix to the file-name of the capture file.

From "capturefile.txt" the new file "decompressed_capturefile.txt" will be generated.

2.2 AUTO-CAPTURING MODE

If PMON_LZH is started with a **COM port argumen**t (e.g. COM25), the tool automatically switches to AUTO-CAPTURING MODE.

Example:

pmon_lzh COM25 <Enter>

Optionally you can select the PMON operating mode with a second command line argument. The value can be 3 or 4. On the value 3 the modem will hunt for any PACTOR 1, PACTOR 2 or PACTOR 3 traffic, on value 4 the modem will look for PACTOR 4 traffic. For an overall search of all PACTOR levels (1-4) the amount of computing power and memory is not sufficient – so you have to choose either PACTOR 1-3 or PACTOR 4.

Example:

pmon_lzh COM25 4 <Enter>

Will start the AUTO-CAPTURING MODE on PACTOR 4. The default setting (if the second command line argument is omitted) is the value 3 (PACTOR 1-3 monitoring)

In AUTO-CAPTURING MODE mode, a P4dragon modem connected to the specified COM port is automatically initialized and put into "PMON" monitoring mode. The packets then received and output by the modem are automatically parsed, the payload portions are extracted, and any LZHUF-compressed files are automatically decompressed "on the fly".

The COM port number of the modem can be determined using the Windows Device Manager.

All plain text portions as well as decompressed portions of the monitored messages are stored in the file **pmon_logfile.txt**, in "appended mode". The file is therefore not deleted and recreated when the PMON_LZH tool is started, but if it already exists, writing data to it is simply continued.

The AUTO-CAPTURING MODE allows continuous monitoring of Winlink channels, with automatic decompression of possibly contained LZHUF-compressed messages.

PMON_LZH can be **aborted pressing any key** on the PC keyboard.

Important notes:
Of course, the **SNR** for PMON must be sufficient for this. The "on the fly" LZHUF decoder aborts operation when detecting the first missing radio packet and restarts searching. An "auto-resume" of on-going file decompression is currently not available. A diversity option, i.e. integration of several receiving stations into the monitoring process, is not yet available, either.

An example of PMON_LZH operation:

```
W:\PMON_HUF\PMON_lzh\Release>pmon_lzh COM25
PMON LZHUF-Decoder Version 1.0.4 beta (16-SEP-2019)
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Trying to open COM port 25...

Open COM port 25: baud=115200 data=8 parity=n stop=1 xon=off to=off odsr=off
dtr=on rts=on

NOW FETCHING DATA FROM MODEM, press any key to abort
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*** PMON MODE: 3

cmd:
*** PMON VERBOSE: 1

cmd:
*** PMON HEX: 1

cmd:

PACTOR-1/2/3 Monitor started:
=============================


cmd:

### LISTENING TO PMON...

* WINLINK BERN *** (by SWISS-ARTG)
s.comec2-34-199-57-66.compute-1.amazonaw
*** DL6MAA Connected to CMS
L2K-5.0-B2FWIHJM$]
;PQ: 58294031
Cvia HB9AK >
: DL6MAA OQAKEQ4J70JK 411 peter.helfert@scs-ptc.com //WL2K Test...
FC EM OQAEQ4J70JK 988 411 0
F> 8D/WL2K

###======= <FC EM> HEADER FOUND, STARTING LZHUF DECOMPRESSION ======###
### UNCOMPRESSED LEN OF MESSAGE: 988

### START OF COMPRESSED MESSAGE FOUND


### LOGICAL PACKET FOUND, LEN 250

### LZHUF OUTPUT (on the fly):

MID: OQAKEQ4J70JK
Date: 2019/09/07 11:17
From: SMTP:peter.helfert@scs-ptc.com
To: DL6MAA
Subject: //WL2K Test...
Mbo: SMTP
Body: 846
```

```
This is a test e-mail.

Miss Polly had a dolly
Who was sick, sick, sick
So she called for the doctor
To be quick, quick, quick
The doctor came
With his bag and

### LOGICAL PACKET FOUND, LEN 161

### LZHUF OUTPUT (on the fly):

 his hat
And he knocked at the door
With a rat-a-tat-tat.

He looked at the dolly
And he shook his head
And he said "Miss Polly,
Put her straight to bed"
He wrote out a paper
For a pill, pill, pill,
"I'll be back in the morning
With the bill, bill, bill"

Miss Polly had a dolly
Who was sick, sick, sick
So she called for the doctor
To be quick, quick, quick
The doctor came
With his bag and his hat
And he knocked at the door
With a rat-a-tat-tat.

He looked at the dolly
And he shook his head
And he said "Miss Polly,
Put her straight to bed"
He wrote out a paper
For a pill, pill, pill,
"I'll be back in the morning
With the bill, bill, bill"



###======= MESSAGE COMPLETED, DECOMPESSION FINISHED =======###
```

Have fun and success with easy PACTOR monitoring!

SCS

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