JUMA TX136/500 Beacon Message Programming for v1.05a 2014-08-30 OH7SV (update F4GCB)

General

JUMA TX136/500 can be set up for a stand-alone beacon. The CW message is programmed with a PC using a terminal emulator like Windows Hyper Terminal. The programmed message is saved into the nonvolatile memory of JUMA TX136/500, thus the PC is needed only for the message programming. The message can include also control characters which are controlling TX136/500 parameters during transmission. These parameters are CW mode (CW, QRSS, DFCW), CW speed (WPM), CW dot time (s), DFCW dash shift (DDS steps number), Output power (MIN, LOW, HI, MAX), the Transmitter frequency (Hz) and Spare open collector output. After programming the message JUMA TX136/500 can be started for a continuous stand alone beacon.

Connection between JUMA TX136/500 and PC

1. Connect a RS232 serial cable between JUMA TX136/500 and a PC RS232 port. If a RS232 port is not available in your PC you can use a USB-RS232 converter. See separate cable wiring drawing.
2. Start the terminal emulator (e.g. Hyper Terminal) and select the following com port settings
    - Port number n (free port in your PC)
    - Baud rate = 9600
    - Data bits = 8
    - Parity = None
    - Stop bits = 1
    - Flow control = None

3. Start JUMA TX136/500 and go to the CONFIG pages with a long DISPLAY/CONFIG button push. Press DISPLAY button until in Serial Protocol page, select **RS232 = Terminal** with UP/DOWN buttons. By pressing DISPLAY go to the Serial Speed page and select **Baud rate = 9600**. Quit CONFIG with long push.
4. Test the serial connection by entering **<CR>.** You should see JUMA TX136/500 responding with the command list.

Programming a beacon message

1. Enter message programming command **b**
2. Enter the CW message ending with **<CR>** e.g. `juma tx500 beacon<CR>`.

The message will be saved to the nonvolatile memory.

Valid characters

```
US ASCII   a-z and A-Z                  ) -.--.- Parenthesis closed
Numbers    0-9                          + .-.-. Plus
<space>    Space                        : ---... Colon
,  --..--  Comma                        ; -.-.-. Semicolon
-  -....-  Hypen/minus                  ä.-.-Ä
.  .-.-.-  Dot                          ö---.Ö
/  -..-.   Slash                        å .--.- Å
=  -...-   Double dash                  ü..--Ü
?  ..--..  Question mark                ! -.-.- Start
@  .--.-.  At sign                      ( -.--. Parenthesis open "KN"
"  .-..-.  Quotation mark               & .-... Wait "AS"
'  .----.  Apostrophe                   # .-.-. End of message "AR"
$  ...-..- Dollar sign                  * ...-.- End of contact "SK"
```

Valid control characters (starting with back slash)

`\pn`	Power level, n = 0...3, corresponding 0=MIN, 1=LOW, 2=HI, 3=MAX
`\fnnnnnn`	Frequency, nnnnnn in Hz. Note, enter always 6 numbers (e.g. 500100 = 500.100 kHz)
`\gn`	Mode, n = 0 to 2, corresponding 0=CW, 1=QRSS, 2=DFCW
`\snnn`	CW speed, nnn = 001...500, corresponding 0.1...50 WPM (e.g. 100 = 10.0 WPM)
`\dnnn`	QRSS and DFCW dot time, nnn = 001 to 120, corresponding 1 to 120 s
`\rnn`	DFCW dash shift, nnn = 01 to 50, corresponding 0.1 to 5.0 Hz.
`\xn`	Spare open collector output. ON n=1, OFF n=0. The spare output is marked SPARE on PCB

Starting and stopping the beacon transmission

- Start beacon **s**
- Stop beacon **q**

Note. You can start and stop beacon transmission also with the TX136/500 transmitter buttons. See separate instruction document for stand alone Beacon operation.