

## JUMA TX136/TX500 serial command and query protocol

OH2NLT (update F4GCB)

Protocol for firmware version 1.05a / 2014.08.30

### General

JUMA TX136/TX500 serial protocol is JUMA TX136/TX500 native way to communicate with another system. The JUMA TX136/TX500 serial command and the query protocol is activated from the TX136/TX500 config page. Set RS232 = TX136/500.

### Note 1.

RS232 serial port baud rate should be set to match with two communicating units. High values of Baud rates are recommended 38400bd and up. High transmission speed keeps transaction times short.

### Description of the JUMA TX136/TX500 protocol

Start and end delimiters. Messages always start with a question mark (?) or equal sign (=). Message always terminated with CR (carriage return character). ? mean query and = means set message. LF is added to the response messages. This makes it lot easier to test the commands with a terminal program.

Start	Message	Stop
?	Query Message	CR
=	Set message	CR

Messages may be only one character long (command character only) or command and parameters. See command descriptions below.

Command Character	Parameter
F	Frequency
O	Operating mode
T	PTT status
K	Keyer type
G	Mode
S	CW speed
D	QRSS & DFCW dot time
R	DFCW dash shift
P	TX Power level
X	Spare I/O state
A	Pre amplifier state
C	Frequency converter state
M	Beacon Message
E	Save beacon msg to the EPROM
B	Beacon control
I	System Info

## Frequency [F]

TX frequency resolution is 1Hz.

F Query

?	F	CR
---	---	----

TX136/TX500 response (example)

=	F	4	7	2	0	0	0	CR	LF
---	---	---	---	---	---	---	---	----	----

F Set

=	F	1	3	6	5	0	0	CR	LF
---	---	---	---	---	---	---	---	----	----

All 6-digits must be set.

## Operating mode [O]

O Query

?	O	CR
---	---	----

TX136/TX500 response (example)

=	O	1	CR	LF
---	---	---	----	----

O Set

=	O	0	CR
---	---	---	----

Number	Operating Mode
0	STANDBY
1	OPERATE
2	TUNE

## PTT status [T]

PTT status is query only command.

T Query

?	T	CR
---	---	----

TX136/TX500 response (example)

=	T	1	CR	LF
---	---	---	----	----

Number	PTT
0	Off
1	On

## Keyer type [K]

K Query

?	K	CR
---	---	----

TX136/TX500 response (example)

=	K	2	CR	LF
---	---	---	----	----

K Set

=	K	0	CR
---	---	---	----

Number	Keyer
0	Dot priority
1	Iambic A
2	Iambic B
3	Straight
4	Beacon

### Mode [G]

G Query

?	G	CR
---	---	----

TX136/TX500 response (example)

=	G	2	CR	LF
---	---	---	----	----

G Set

=	G	0	CR
---	---	---	----

Number	Mode
0	CW
1	QRSS
2	DFCW

### CW speed [S]

S Query

?	S	CR
---	---	----

TX136/TX500 response (example)

=	S	1	5	0	CR	LF
---	---	---	---	---	----	----

S Set

=	S	1	5	0	CR
---	---	---	---	---	----

CW speed resolution is 0.1 wpm. All 3 digits must be entered. 200 = 20.0 wpm, 005 = 0.5wpm. Acceptable range is from 0.1 wpm to 50.0 wpm.

### QRSS & DFCW dot time [D]

D Query

?	D	CR
---	---	----

TX136/TX500 response (example)

=	D	1	2	0	CR	LF
---	---	---	---	---	----	----

D Set

=	D	0	6	0	CR
---	---	---	---	---	----

CW dot time resolution is 1 s. All 3 digits must be entered. 120 = 120 s, 003 = 3 s. Acceptable range is from 1 s to 120 s.

### DFCW dash shift [R]

R Query

?	R	CR
---	---	----

TX136/TX500 response (example)

=	R	1	0	CR	LF
---	---	---	---	----	----

R Set

=	R	0	2	CR
---	---	---	---	----

CW dash shift time resolution is 0.1 Hz. All 2 digits must be entered. 10 = 1.0 Hz, 02 = 0.2 Hz. Acceptable range is from 0.1 Hz to 5.0 Hz.

### TX power level [P]

P Query

?	P	CR
---	---	----

TX136/TX500 response (example)

=	P	2	CR	LF
---	---	---	----	----

P Set

=	P	0	CR
---	---	---	----

Number	Power level
0	MIN
1	LOW
2	HI
3	MAX

### Spare I/O state [X]

X Query

?	X	CR
---	---	----

TX136/TX500 response (example)

=	X	0	CR	LF
---	---	---	----	----

X Set

= X 1 CR

Number	Spare I/O state
0	OFF
1	ON

### Pre Amplifier state [A]

A Query

? A CR

TX136/TX500 response (example)

= A 0 CR LF

A Set

= A 1 CR

Number	Pre Amplifier state
0	OFF
1	10 dB
3	20 dB

### Frequency converter state [C]

C Query

? C CR

TX136/TX500 response (example)

= C 0 CR LF

C Set

= C 1 CR

Number	Frequency converter state
0	OFF
1	ON

### Beacon message [M]

M Query

? M CR

TX136/TX500 response (example)

= M vvv vvv de JUMA Beacon # CR LF

## M Set

=	M	\P1vvv \P2 vvv \P3vvv de OH2NLT 500kHz Beacon #	CR
---	---	---	----

Beacon message can be 238 characters long. See Beacon instructions for special control character actions. M command does not store message into the EPROM. Use E command for EPROM write.

## Store beacon message to the EPROM memory [E]

### E Set

=	E	CR
---	---	----

E is a set only command.

## Beacon control [B]

### B Query

?	B	CR
---	---	----

TX136/TX500 response (example)

=	B	0	CR	LF
---	---	---	----	----

### B Set

=	B	C	CR
---	---	---	----

Parameter	Beacon
0	Beacon Off
1...9	Beacon On for n times
C	Beacon On continously

## System info [I]

System info is a query only command.

### I Query

?	I	CR
---	---	----

or

?	I	Sub command	CR
---	---	-------------	----

Sub command	Action
none	System info
I	System info
P	Power meter reading
S	SWR meter reading
B	Battery voltage
D	Drain current

## System Info

### I I Query

?	I	I	CR
---	---	---	----

TX136/TX500 response (example)

=	I	I	JUMA-TX500, SW v1.01, DATE 11.10.2008	CR	LF
---	---	---	---------------------------------------	----	----

TX Power, resolution 0.1W. Example 527 = 52.7W.

IP Query

?	I	P	CR
---	---	---	----

TX136/TX500 response (example)

=	I	P	5	2	7	CR	LF
---	---	---	---	---	---	----	----

SWR meter reading. Example 100 = 1.00

IS Query

?	I	S	CR
---	---	---	----

TX136/TX500 response (example)

=	I	S	1	0	0	CR	LF
---	---	---	---	---	---	----	----

Battery voltage, resolution 10mV. Example 1350 = 13.50V.

IB Query

?	I	B	CR
---	---	---	----

TX136/TX500 response (example)

=	I	B	1	3	5	0	CR	LF
---	---	---	---	---	---	---	----	----

Drain current, resolution 0.1A. Example 12 = 1.2A.

ID Query

?	I	D	CR
---	---	---	----

TX136/TX500 response (example)

=	I	D	1	2	CR	LF
---	---	---	---	---	----	----

### No action characters

For input format flexibility, certain characters are defined as no action characters.

0x0A	Line feed
0x00	NUL