

<< Feature of modified firmware(v1.04m_20150414) >>

- 1) Multimode beacon transmission available
QRSS10, QRSS30, QRSS60, QRSS120 (dot:dash = 1:2)
DFCW10(dot-dash shift frequency 1.5Hz), DFCW30(0.5Hz), DFCW60(0.25Hz), DFCW120(0.12Hz)
WSPR-2, WSPR-15(manual start, auto start and repeat)
- 2) EIA-232(RS-232C) serial communication to GPS receiver module through internal UART2 port (J1 header)
(original serial port (UART1, stereo jack of rear panel) not use)
GPS time synchronization for internal clock (only once when capturing signals from satellites)
Grid Locator calculation
- 3) Timer synchronized auto start WSPR transmission
Internal clock(synchronized by GPS) 01second start
- 4) Beacon message editor by JUMA's panel switches
No PC required
Max 32characters as QRSS, DFCW (common) message can be saved to EEPROM
WSPR standard message (callsign(up to 6digit), grid locator(4digit), power(2digit)) can be saved to EEPROM
(If auto start mode is selected, grid locator is replaced by GPS information and Power by PWR setting)
Symbol encoding
- 5) External command of transmitting frequency shift for various FSK modes
Additional serial command available
command: **=D(shift level (decimal number))<CR>**
result: **lower** frequency of shift level
1 shift level = 0.03725Hz(TX-136), 0.01118Hz(TX-500)
shift limit = 200Hz

example(TX-136):

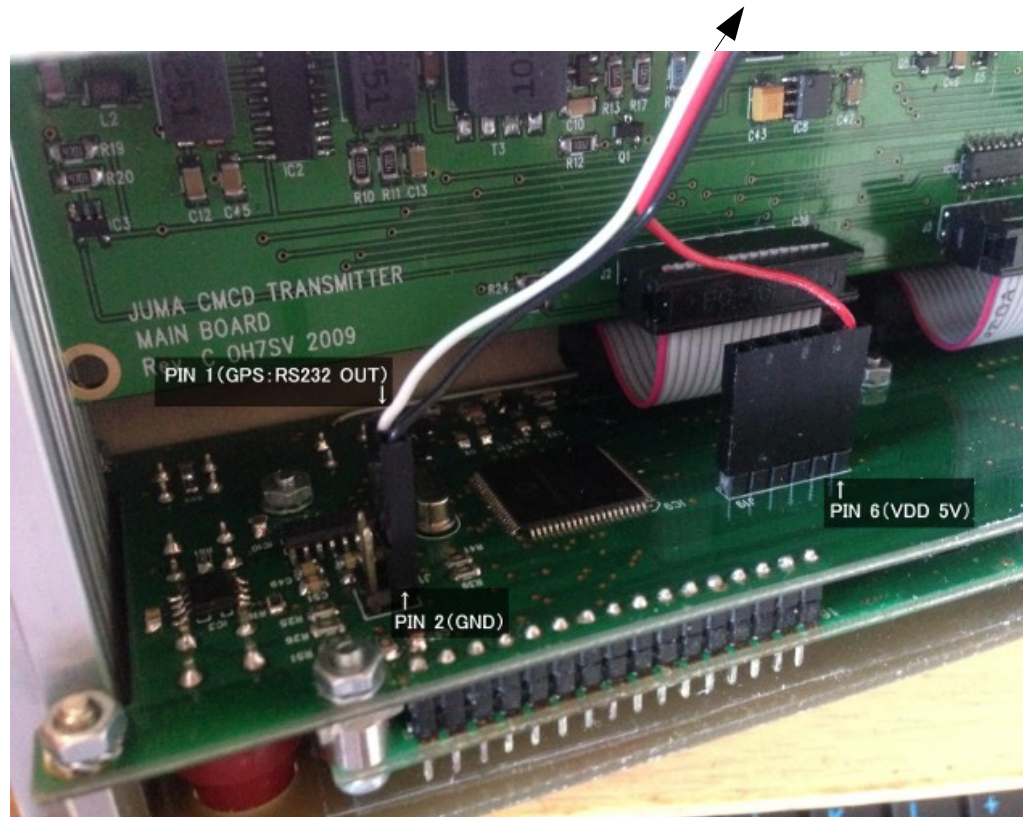
command	shift frequency
=D27<CR>	-1Hz
=D13<CR>	-0.5Hz
=D0<CR>	±0Hz
- 6) Another feature
CW sidetone frequency 20Hz step setting
TX frequency and OSC reference frequency 1Hz step setting
Iambic B mode is changed to be closed to "CMOS Super Keyer" mode
Power limitation for mobile (TX-136: default OFF, TX-500: default ON)
Frequency range limited according to IARU Band Plan (TX-136: 135.7-137.8kHz, TX-500: 472-479kHz)
OLED display module support (model WEH001602A by WINSTER Display CO.,LTD. tested)
Manual reset for internal clock (14 Apr. 2015 added)

<< Installing GPS receiver module in JUMA >>

Requirements about GPS receiver module

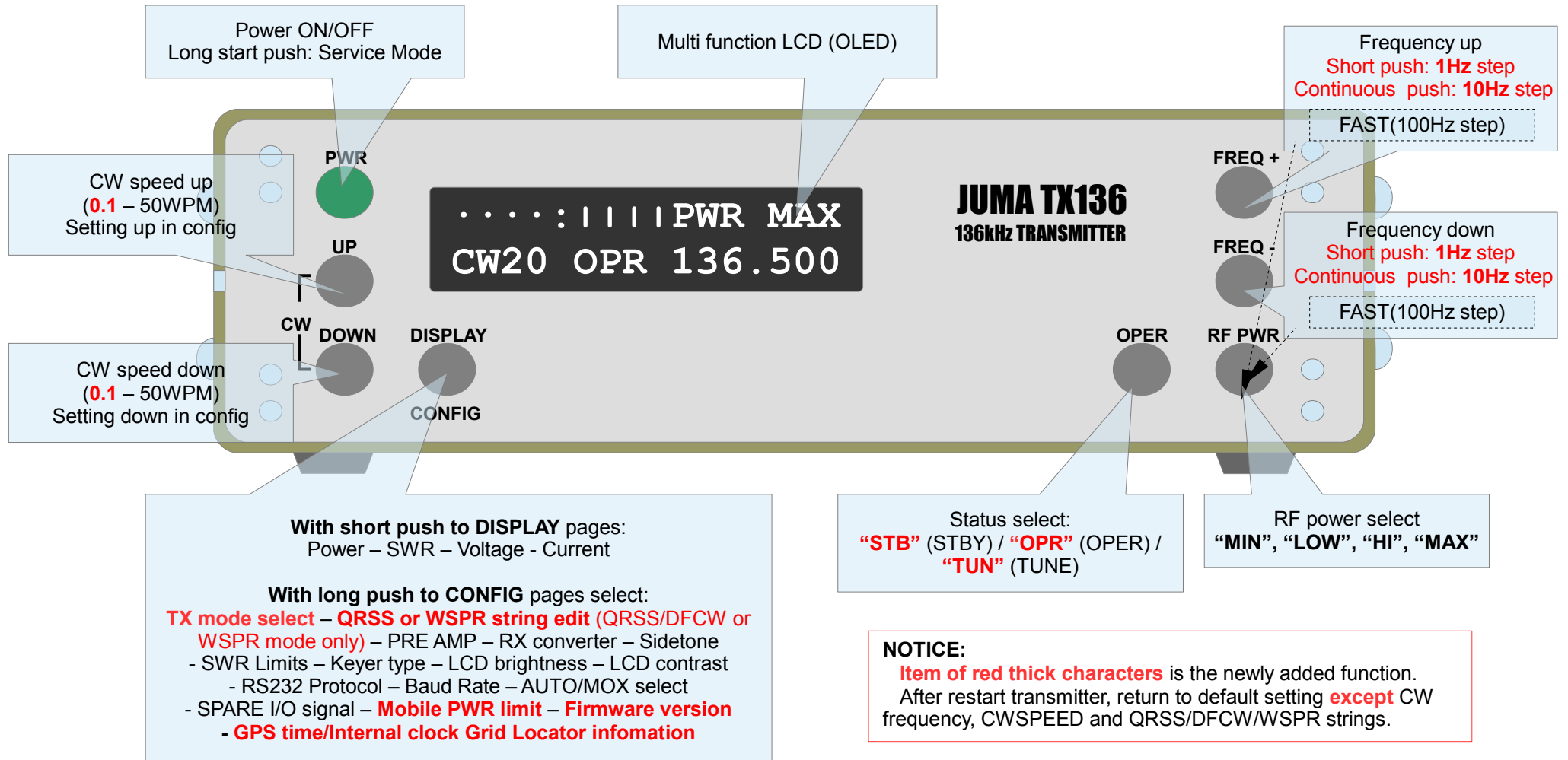
1. EIA-232(RS-232C) level output
 2. Accomodate 5V VDD
 3. Baud rate 4800, 9600bps (another baud rates not tested)
 4. NMEA 0813 ver 3.01 Message format, \$GPGGA sentence included
 5. 1Hz update (1PPS output not needed)
 6. Time sentence format is “hhmmss.sss” not “hhmmss.ss”
- Please check sentence from GPS receiver with terminal software

To GPS receiver module

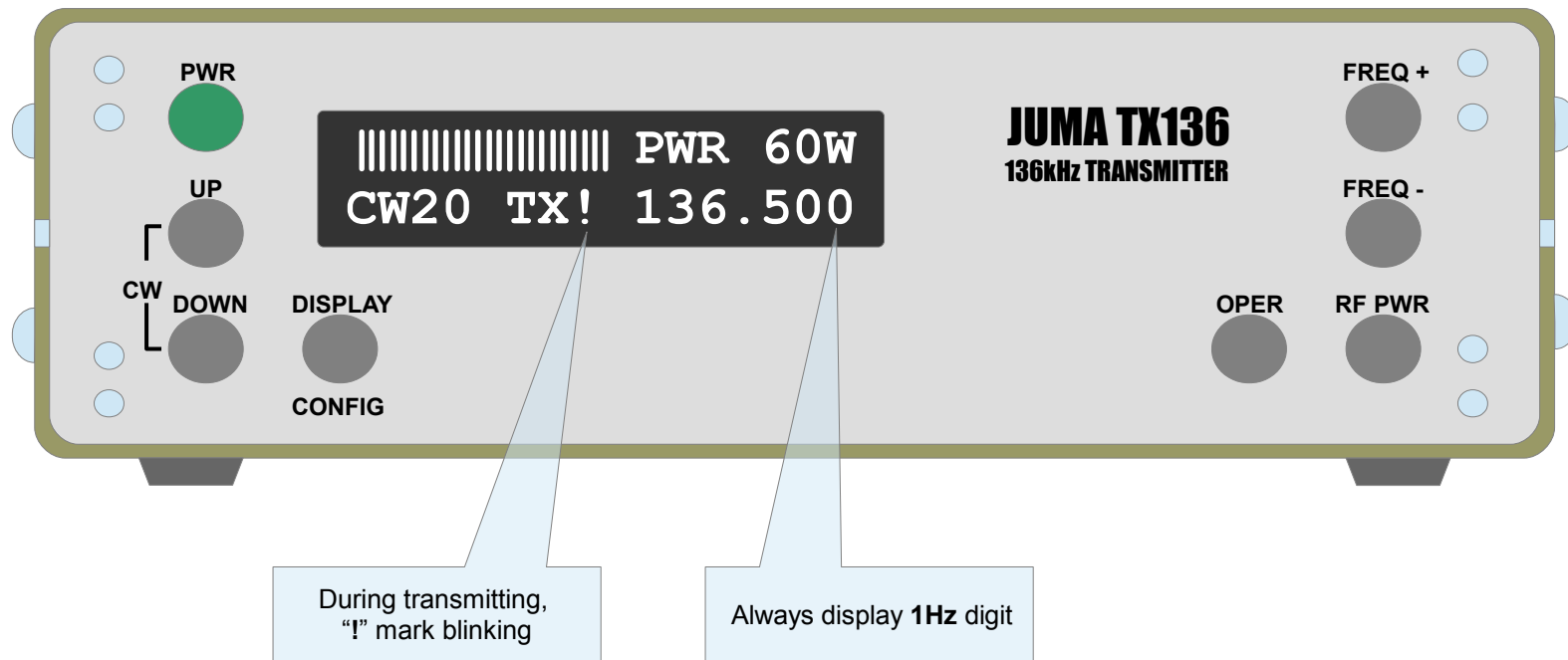


NOTICE: Check short circuit on VDD line carefully. If a short circuit exists, Serious failure will occur to Voltage regulation devices on the Control board.

<< Power On >> **CW** mode appear first



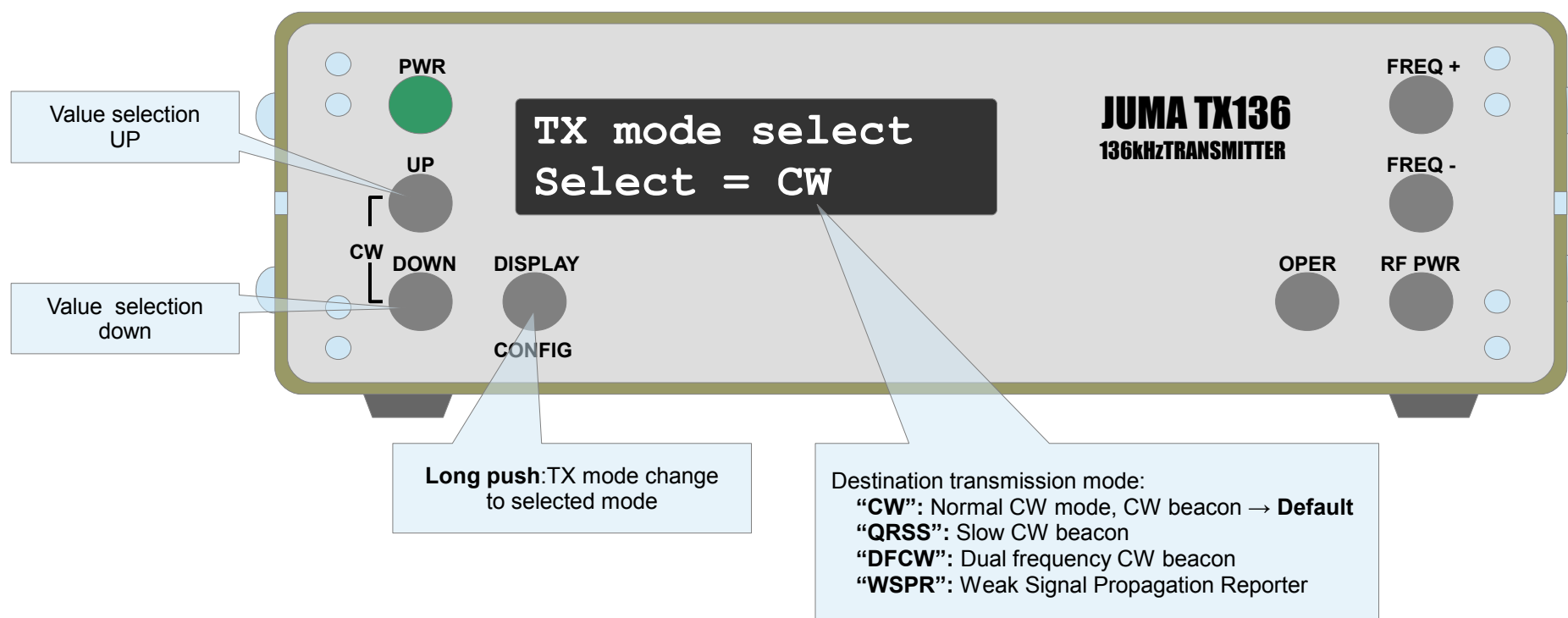
< LCD display on CW transmitting >



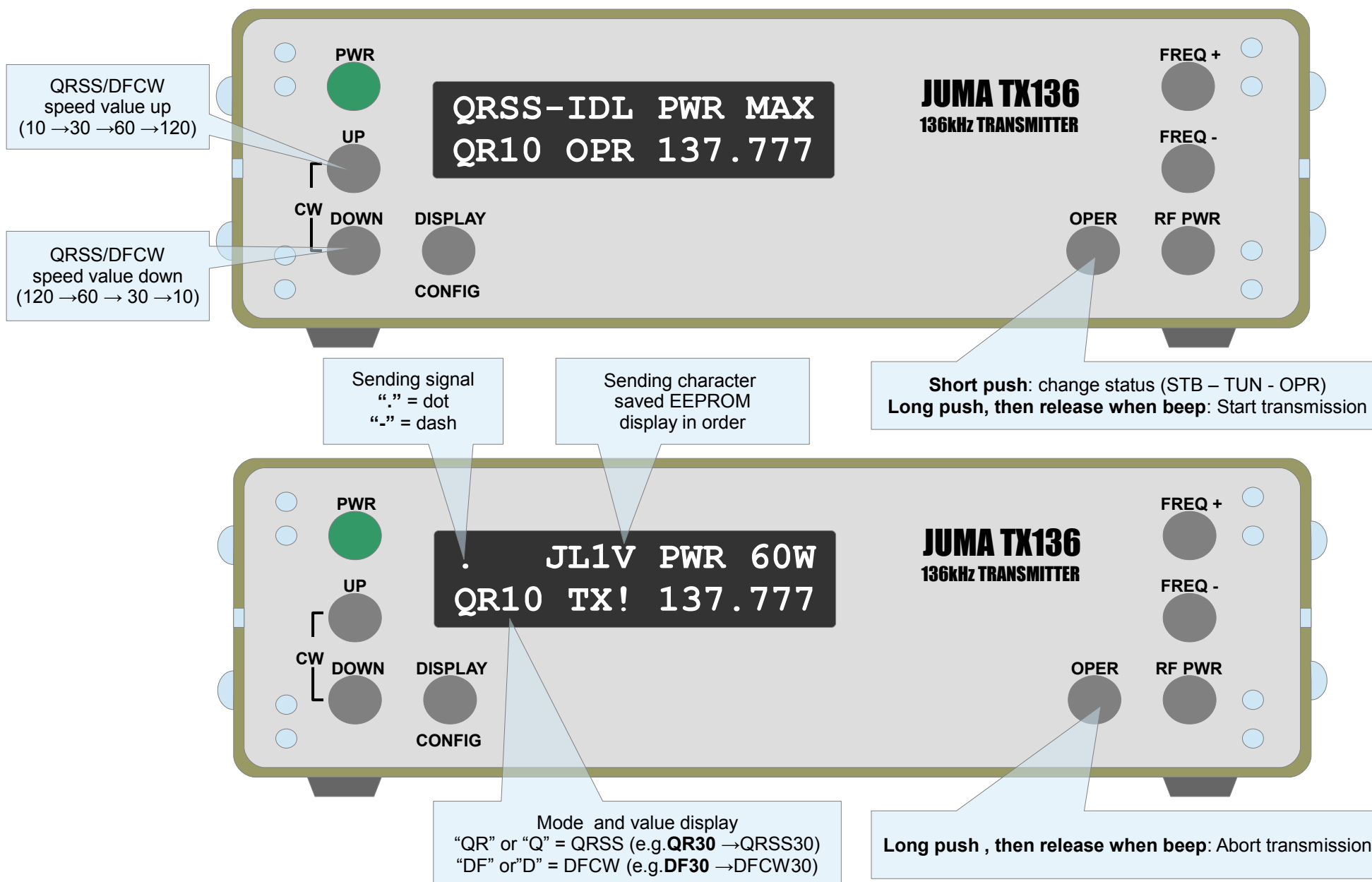
<< Newly added CONFIG menu >>

To enter CONFIG mode, Long push CONFIG button until beep

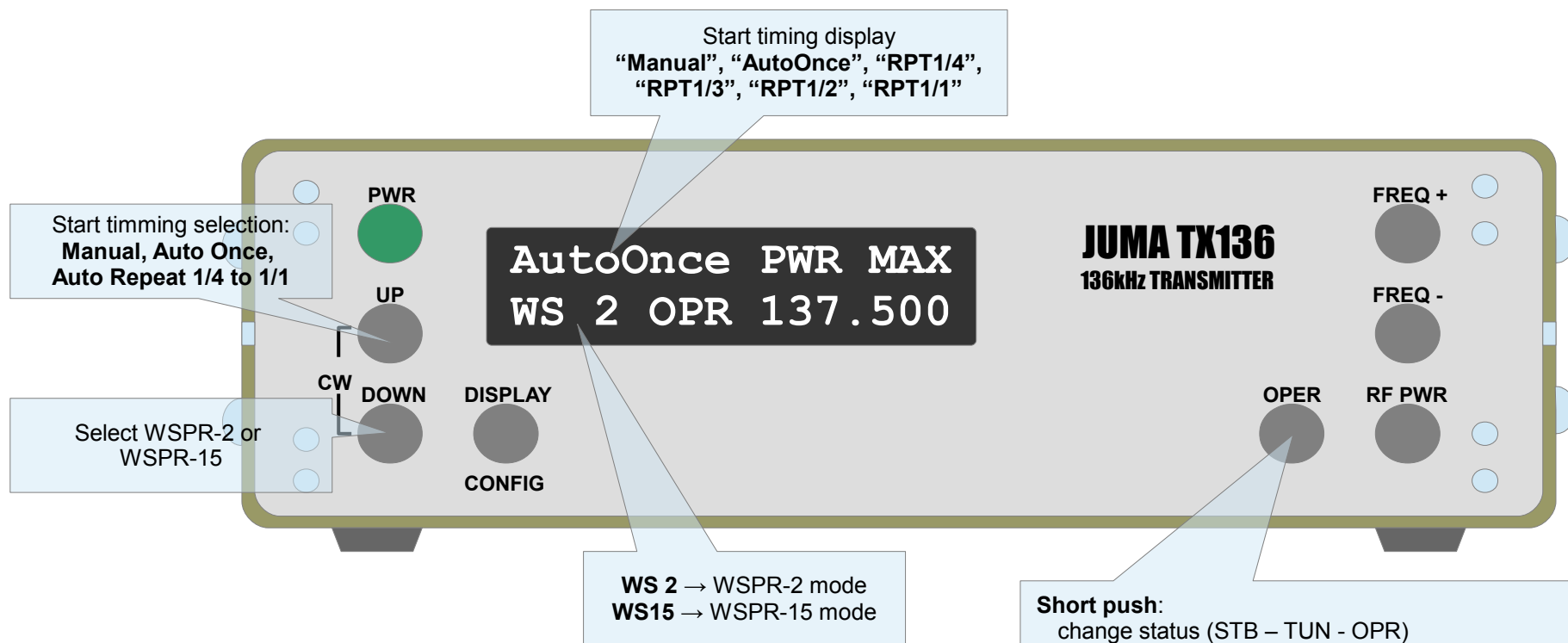
< TX mode select >



TX mode “QRSS” or “DFCW”



TX mode “WSPR”



TX mode “WSPR” setting

WSPR-2, WSPR-15 available (CW DOWN button push to select)
Frequency is moved automatically for each mode.

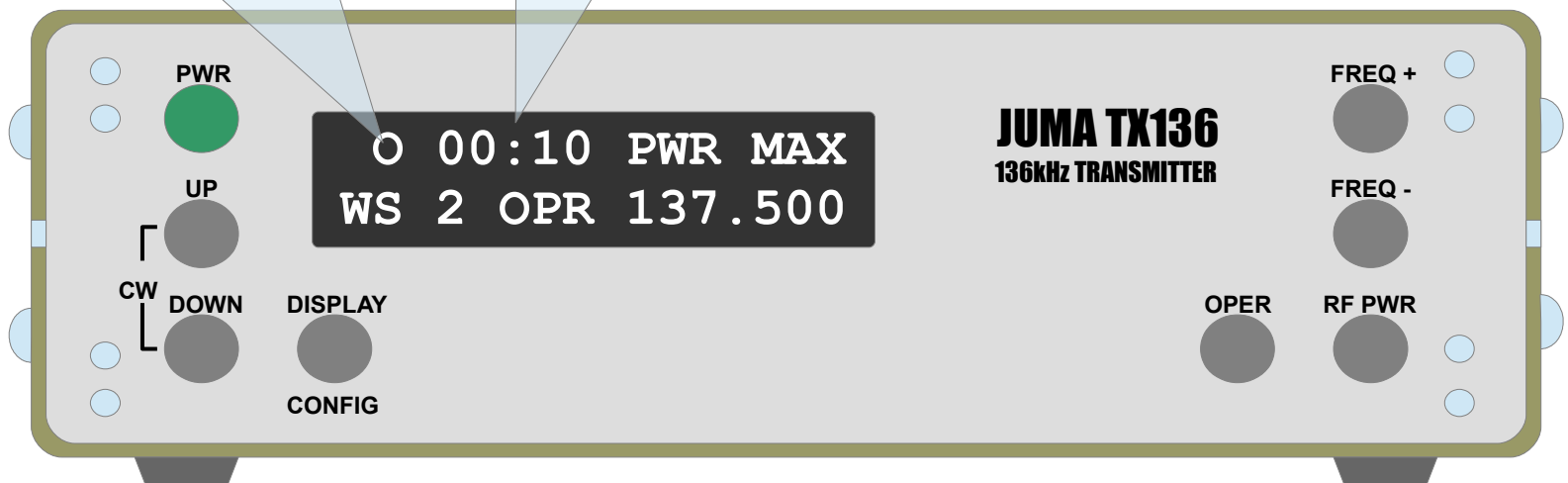
Start timing (CW UP button push to select) :

Manual : immediately start any time
AutoOnce : timer synchronized start only once
RPT1/4 : timer synchronized start to 3 times every (25%)
RPT1/3 : timer synchronized start to twice every (33%)
RPT1/2 : timer synchronized start every other time (50%)
RPT1/1 : timer synchronized start every time (100%)

Start timing selection display
"O" AutoOnce, "4" RPT1/4, "3" RPT1/3,
"2" RPT 1/2, "1" RPT1/1

Countdown timer display
"mm:ss"

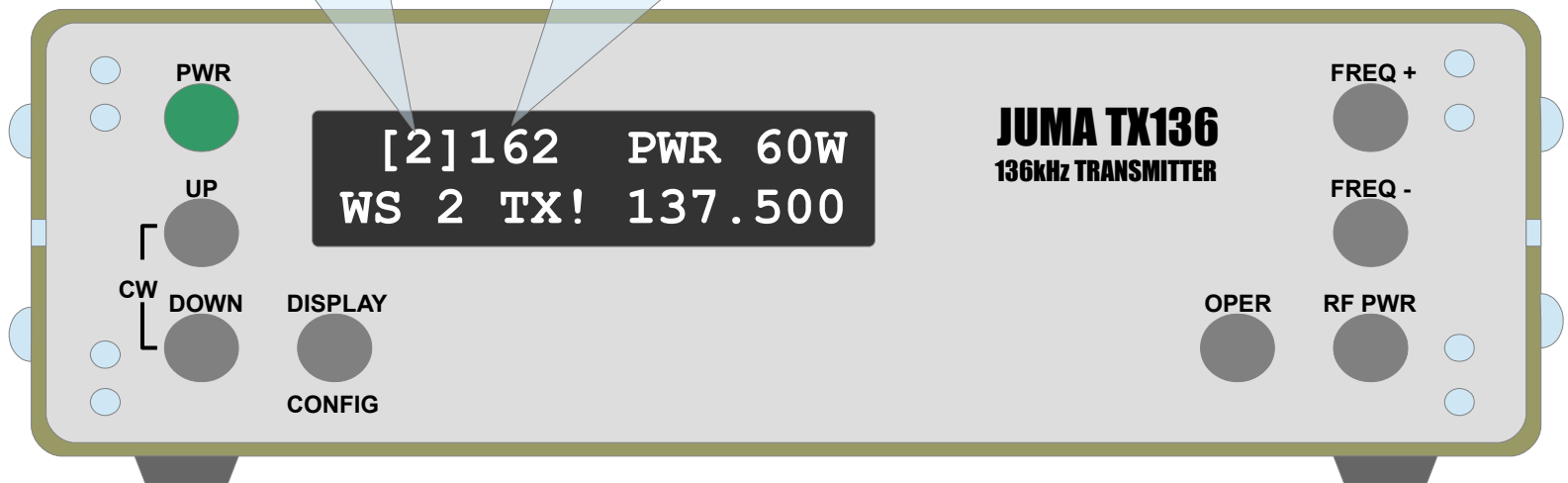
Transmission waiting at timer sync-mode



Sending symbol display
"0", "1", "2", "3"

Remaining number display of
sending symbol from "161" to "0"

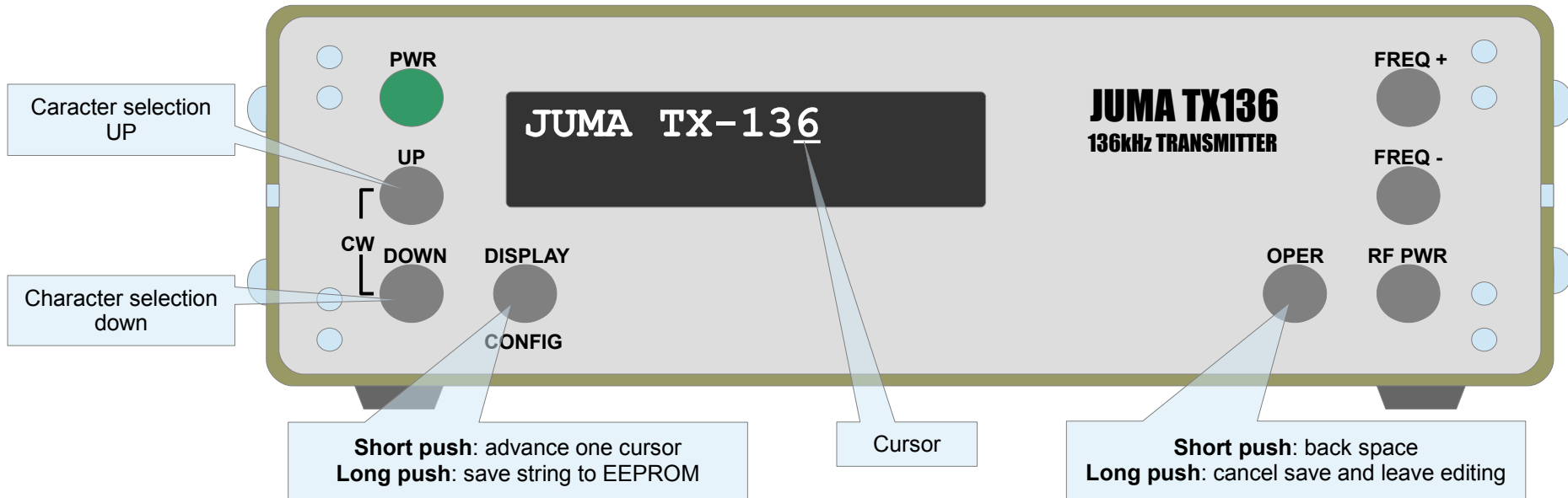
Transmitting WSPR



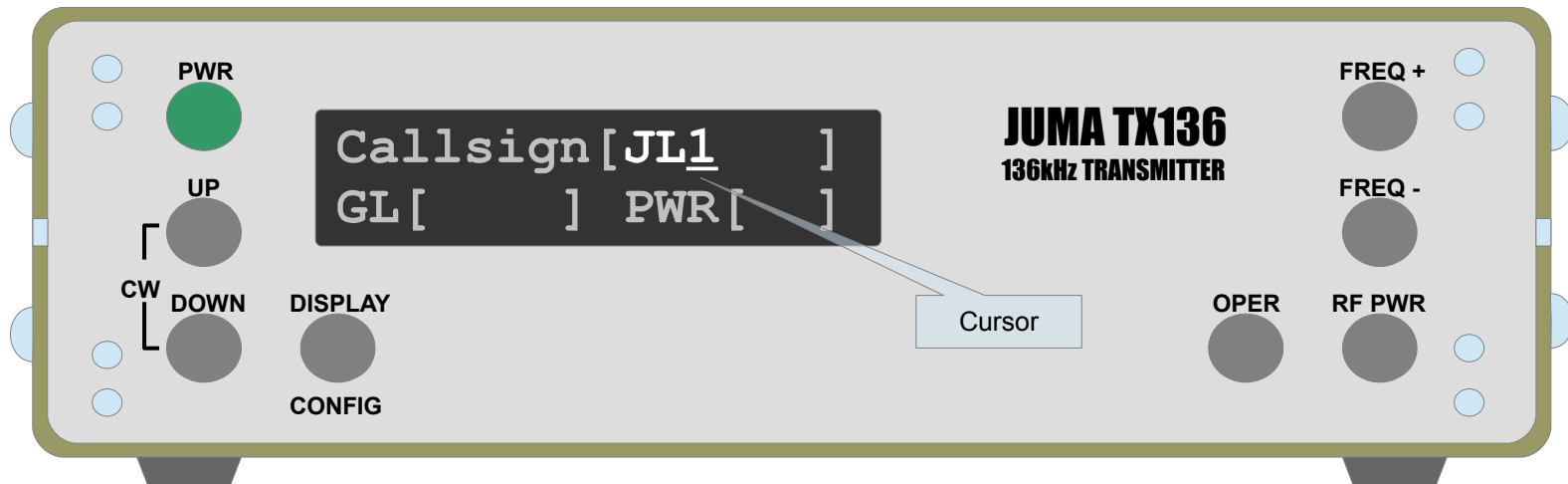
< Message string editor >

To enter, Long push CONFIG button on CONFIG menu “QRSS string edit” or “WSPR string edit”

For QRSS/DFCW common

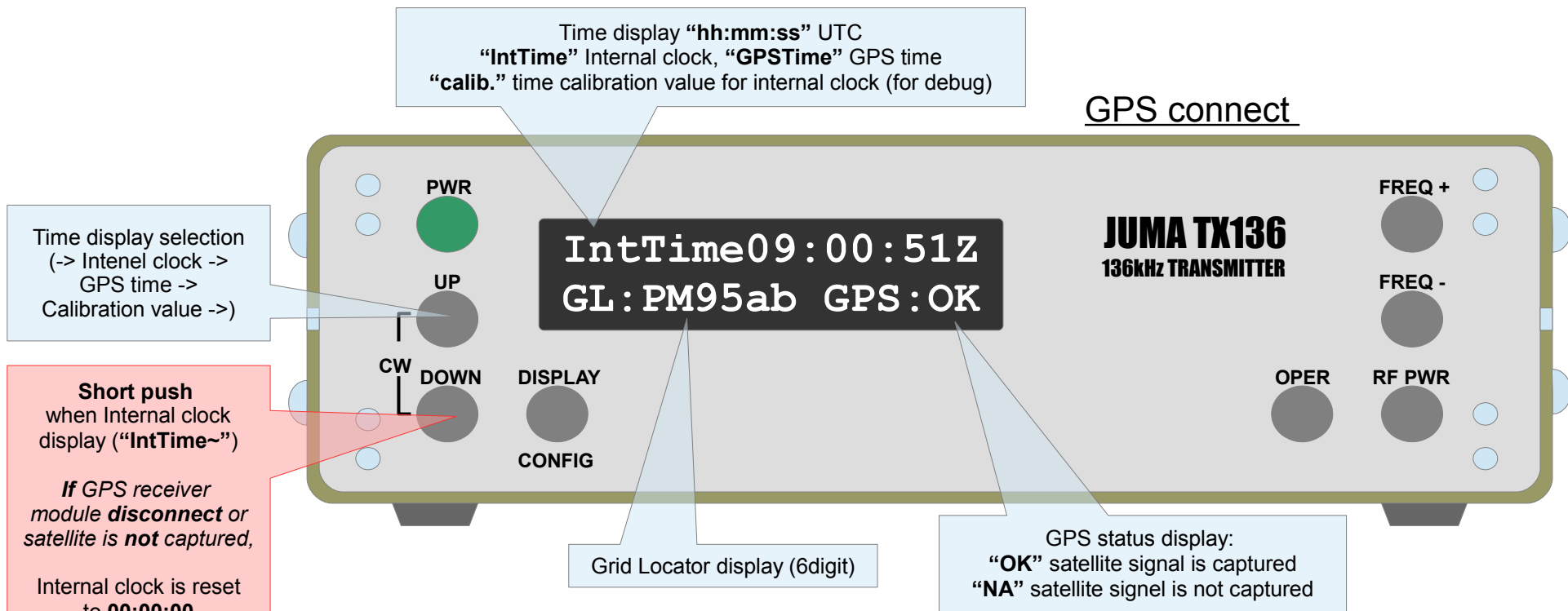


For WSPR



Callsign part, In the case of 2 letters prefix such as J1AB, be entered as “<space>J1AB<space>”

< GPS time/Internal clock Grid Locator information >



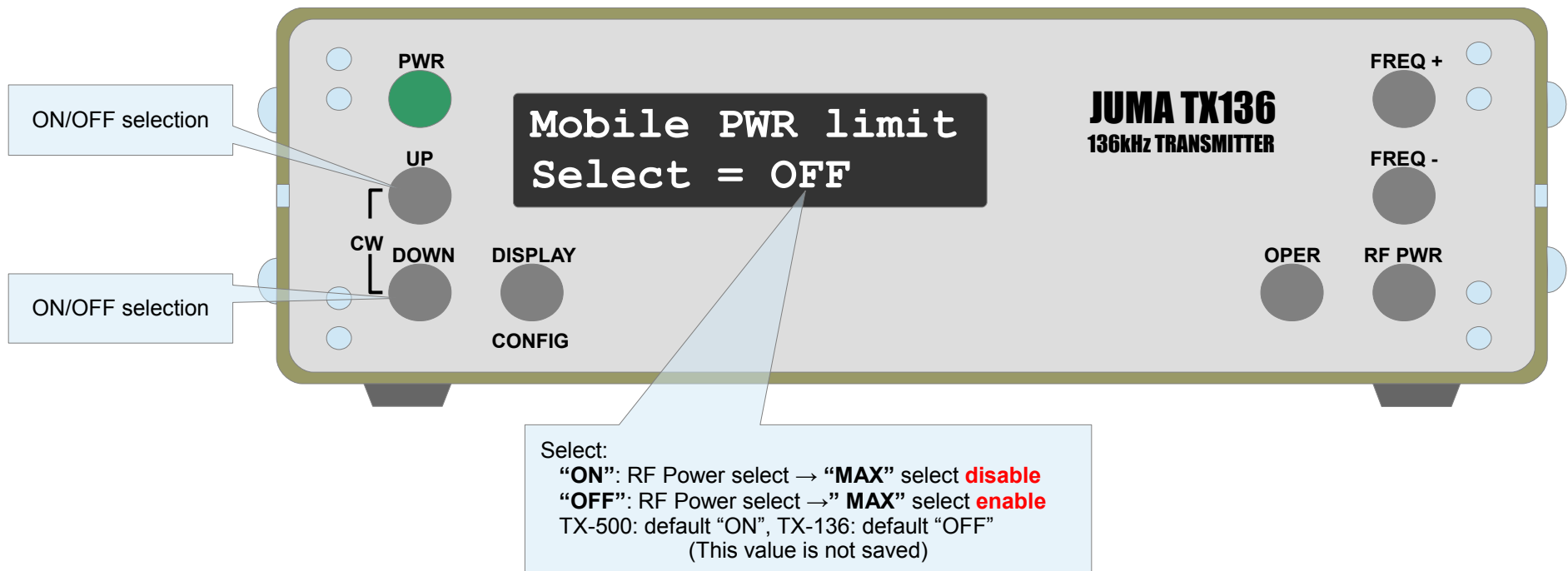
GPS disconnect



< Firmware version information (display only) >



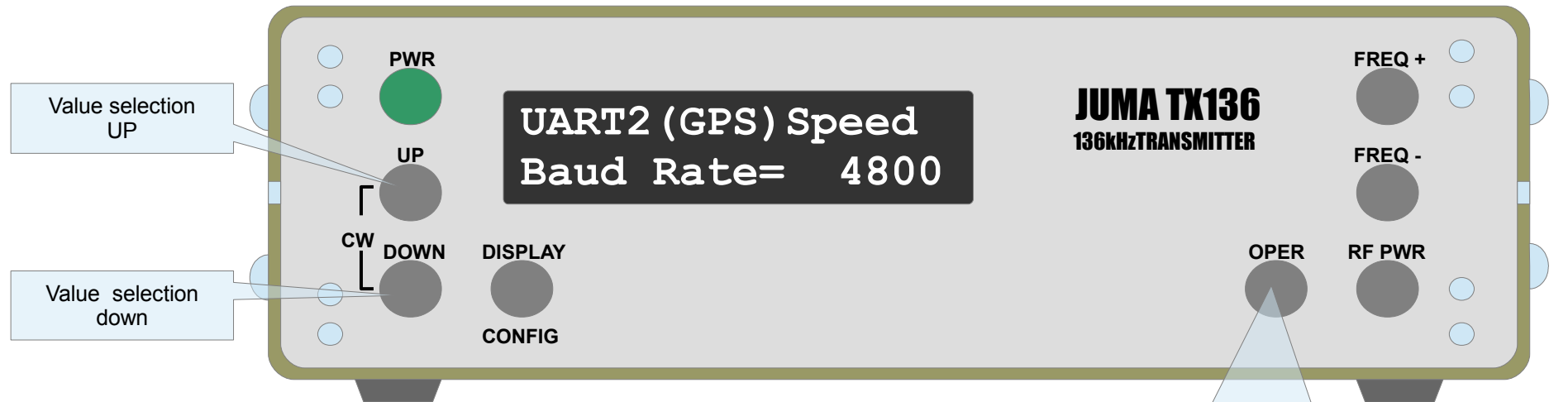
< Output power limit selection >



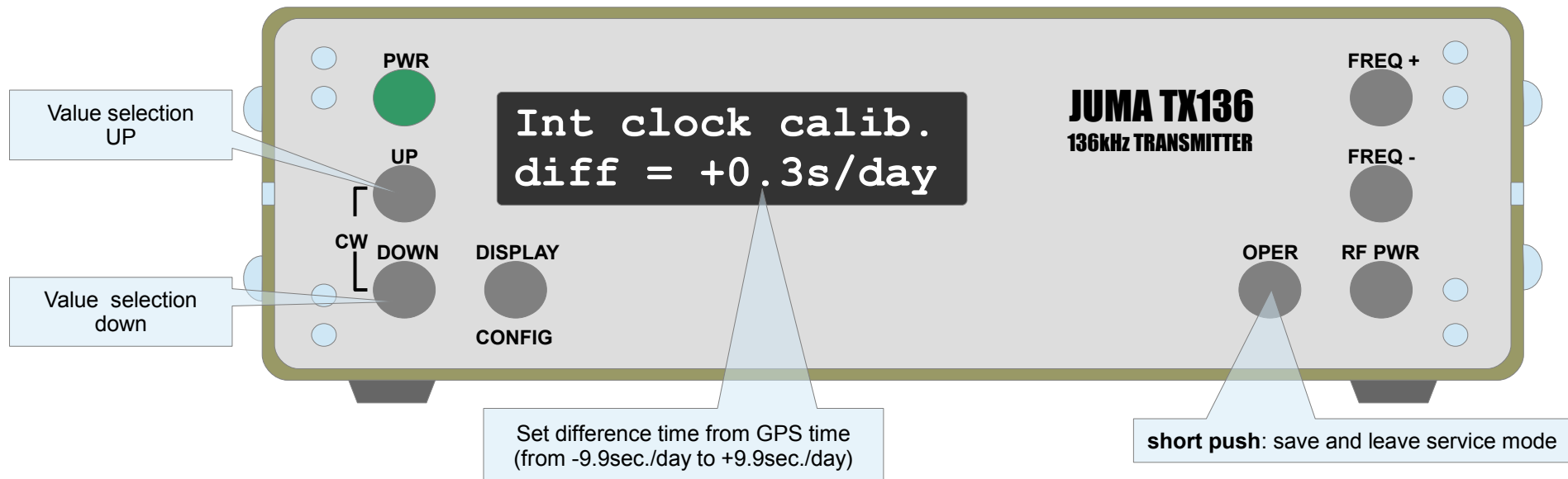
<< Newly added setting menu on service mode >>

To enter service mode, Long push Power button from power off state

< Connection speed to GPS receiver module >



< Internal clock calibration >





My JUMA TX-136

GPS receiver module (CanMore GMS6-CR6) on the top cover