JLog the logging Stamp

– overview and features at a glance –

JLog is a special R/C data logger, alarm generator and telemetry gateway.

Logging, telemetry and alarms are all about sensors; therefore JLog 2/2.5 is supporting the following sensors:

ESC as a virtual multi-sensor, the uniqueness of JLog:

- Kontronik JIVE
- Kontronik KOSMIK [1]
- Castle Creations ICE/Edge series with Castle Link Live enabled [2]
- Graupner/SJ Brushless Control +T series [1]
- (more currently under development)

Discrete sensors for additional measurements external to an ESC:

- 1 precision analogue temperature sensor Microchip TC1046 [3] [4]
- 1 to 5 12bit digital temperature sensors Maxim DS18B20 [5]
- Standard RPM sensor [6]
- External voltage sensor 0..12.8V (requires a DIY voltage divider 1:5, 2 resistors)
- Air speed sensor SM#2560 (Prandtl probe, commonly known as pitot tube)
- R²prototyping HV²BEC as a virtual multi-sensor (data link)
- Robbe BID chip (not yet in the firmware of the current series)
- Next to come: 16S intelligent cell voltage sensor

Telemetry, one of the fastest-growing developments in R/C industry is the integration into transmitter and receiver. Unfortunately most time followed by an incomplete set of available sensors and/or missing interoperability with existing ESCs. JLog's unique feature is to not only connect and log to the various available sensors as listed above but having the extended ability to transmit the captured data using the existing telemetry link of your transmitter/receiver. The following systems are currently supported:

- Multiplex MSBv2
- JETI v1 and EX
- Graupner/SJ HoTTv4
- Futaba S.BUS2 (FASSTest) [7]
- JR Propo (DMSS)
- SPEKTRUM via TM1000 X-Bus
- HiTec
- DIY X-Bee-based telemetry

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[1] JLog2.5 only *(JLog2, discontinued, was a product of SM-Modellbau , interfacing options JSend, JCC and JSPEK from R²prototyping.)*

[2] JLog2: With simultaneous use of telemetry from SPEKTRUM or HiTec it is recommended to use the adapter *JCC*.

[3] Supported but currently not in standard firmware included (available on request): precision analogue Microchip TC1047a, passive high-temperature probe PT1000, passive, NTC as used in Graupner/SJ #33612, #33613

[4] Tested for compatibility SM-Modellbau SM#2220, SM#2221

[5] Tested for compatibility , SM-Modellbau SM#2820

[6] Tested with various Sensors from different manufacturers, potentially any rpm sensor can be used. Explicitly tested with SM-Modellbau SM#2210 (BL phase), SM#2211 (optical), SM#2213 (magnetic)

[7] JLog2 needs a *JSend* to interface to the S.BUS2

Additionally "wired telemetry" i.e. live display:

- OpenFormat Livestream in 4 configurable baud rates
- SM Unidisplay
- JETIbox (all models)
- Graupner/SJ SmartBox

To get the most out of telemetry and monitoring the sensor values in the R/C model, smart (state-dependent) ***alarming*** is required. JLog monitors the data items and generates configurable alarms.

Supported alarm sources:

Virtual ESC sensors:

- Battery voltage
- Used capacity mAh (internally calculated)
- Power FET temperature
- BEC voltage dip

Discrete sensors:

- External temperatures (1 to 5)
- Output voltage of the HV²BEC mapped to BEC voltage of virtual ESC sensor
- One external voltage 0..12.8V mapped to temperature #1
- Min/max air speed

To signal an alarm conditions, there are several different options. In the R/C model:

- Configurable alarm lines for DIY alarm devices (buzzer, flasher), TTL low-active
- Line 1 (general alarm line) - configurable types: switched, pulsed (buzzer), flashed, Morse
- Line 2: optional, to separate the mAh alarm, type: switched

If connected to a telemetry system, depending on the actual system, JLog fully supports the generation of sensor alarms. [8]

Alarms (up to 10 types) are logged also.

Log recording

- Format: Openformat (LogView, DataExplorer)
- Log items: 31 in 1 channel
- Media: micro SD, 2GB, FAT16

JLog starts and runs also without a SD, no logging in this case.

[8] Some do some don't, Futaba, JR, HiTec generally, SPEKTRUM partially and JETI optionally generate alarms in the terminal/transmitter.

Setup and configuration of JLog devices is very easy and assisted with:

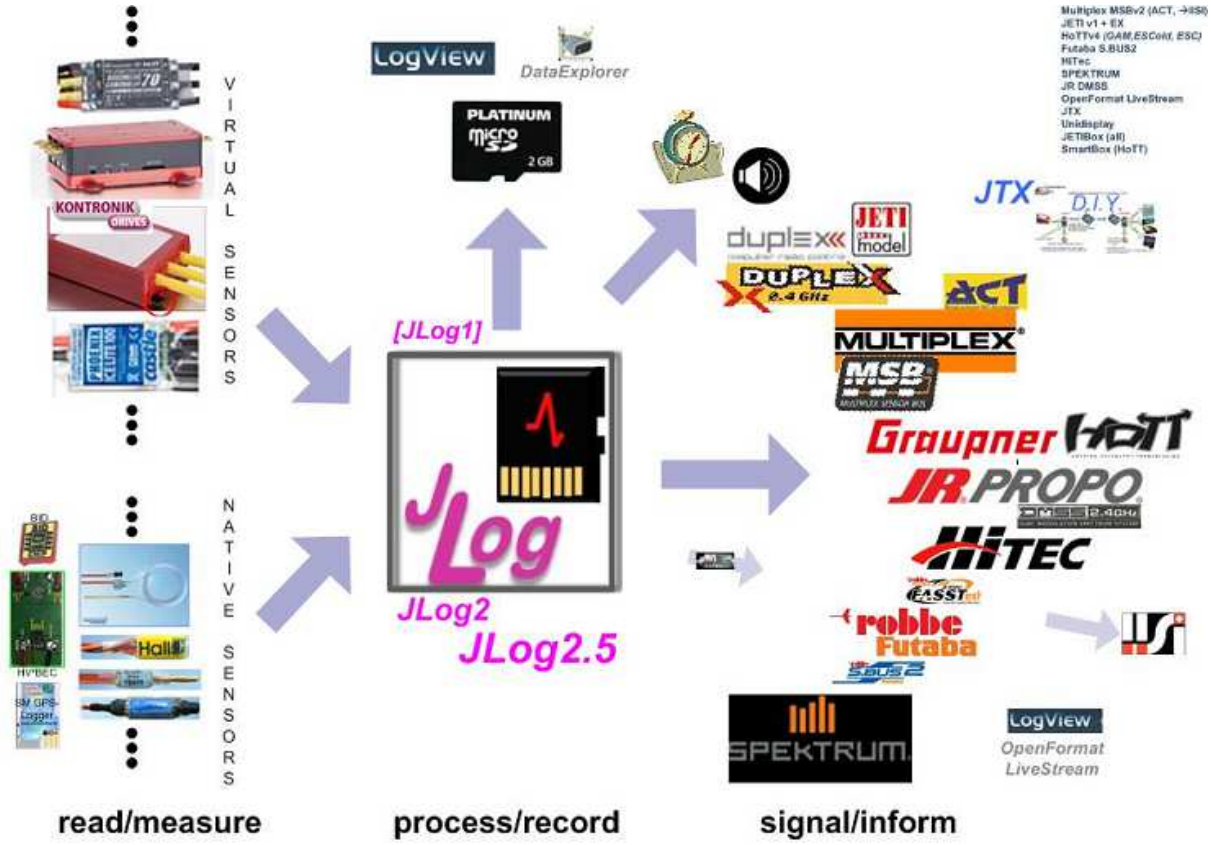
- JLC (JLog Configurator), built-in help system, linked to online documentation, OS requirements: Windows (.NET based)
- Configuration uploads to JLog: JLC stores the configuration on the SD card, JLog automatically checks for updated configurations on the SD card on every boot.
- JLog stores the most recent configuration into a non-volatile memory. If the SD card is lost or damaged, a blank SD card can be inserted having JLog dumping the currently active configuration onto the card for editing in JLC.
- JLog's firmware is segmented by ESC/telemetry type combinations, easily picked and installed from a download selector on the home page with cabling and step-by-step setup instructions for every individual combination.

Firmware update done via the SD card, easy to make within 15 seconds.

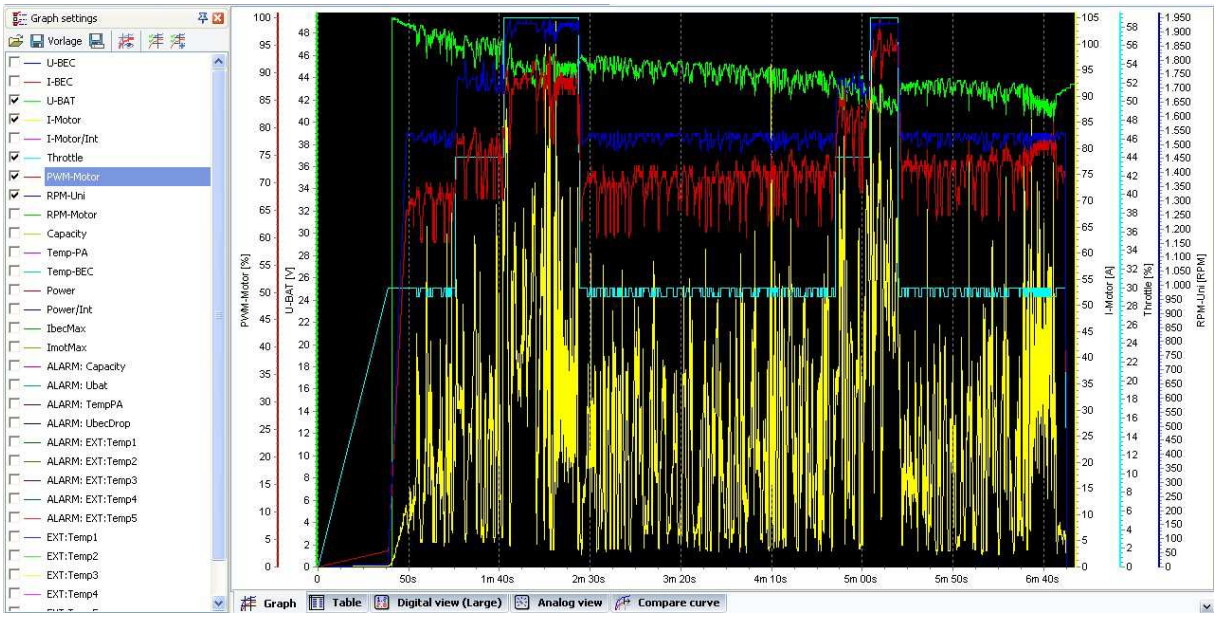
Unboxing, this is what you get:

- JLog2.5 device
- UNI (JR/Futaba) servo cable for your ESC [9]
- Special cable to connect the Kontronik KOSMIK
- 2GB micro SD card
- USB micro SD reader

[9] Some ESCs require additional cables, please follow the instructions on http://www.j-log.eu/start


VIRTUAL SENSORS
NATIVE SENSORS
LogView
DataExplorer
PLATINUM
2 GB
[JLog1]
JLog
JLog2
JLog2.5
JTX
D.I.Y.
JETI model
duplex
DUPLEX 2.4 GHz
ACT
MULTIPLEX
MSB
Graupner HoTT
JR PROPO
HiTEC
EASSTest
robbe Futaba
S.BUS2
SPEKTRUM
LogView
OpenFormat
LiveStream
read/measure
process/record
signal/inform

Log Viewing


Graph settings
Vorlage
U-BEC
I-BEC
U-BAT
I-Motor
I-Motor/Int
Throttle
PWM-Motor
RPM-Uni
RPM-Motor
Capacity
Temp-PA
Temp-BEC
Power
Power/Int
IbecMax
ImotMax
ALARM: Capacity
ALARM: Ubat
ALARM: TempPA
ALARM: UbecDrop
ALARM: EXT:Temp1
ALARM: EXT:Temp2
ALARM: EXT:Temp3
ALARM: EXT:Temp4
ALARM: EXT:Temp5
EXT:Temp1
EXT:Temp2
EXT:Temp3
EXT:Temp4
PWM-Motor [%]
U-BAT [V]
I-Motor [A]
Throttle [%]
RPM-Uni [RPM]
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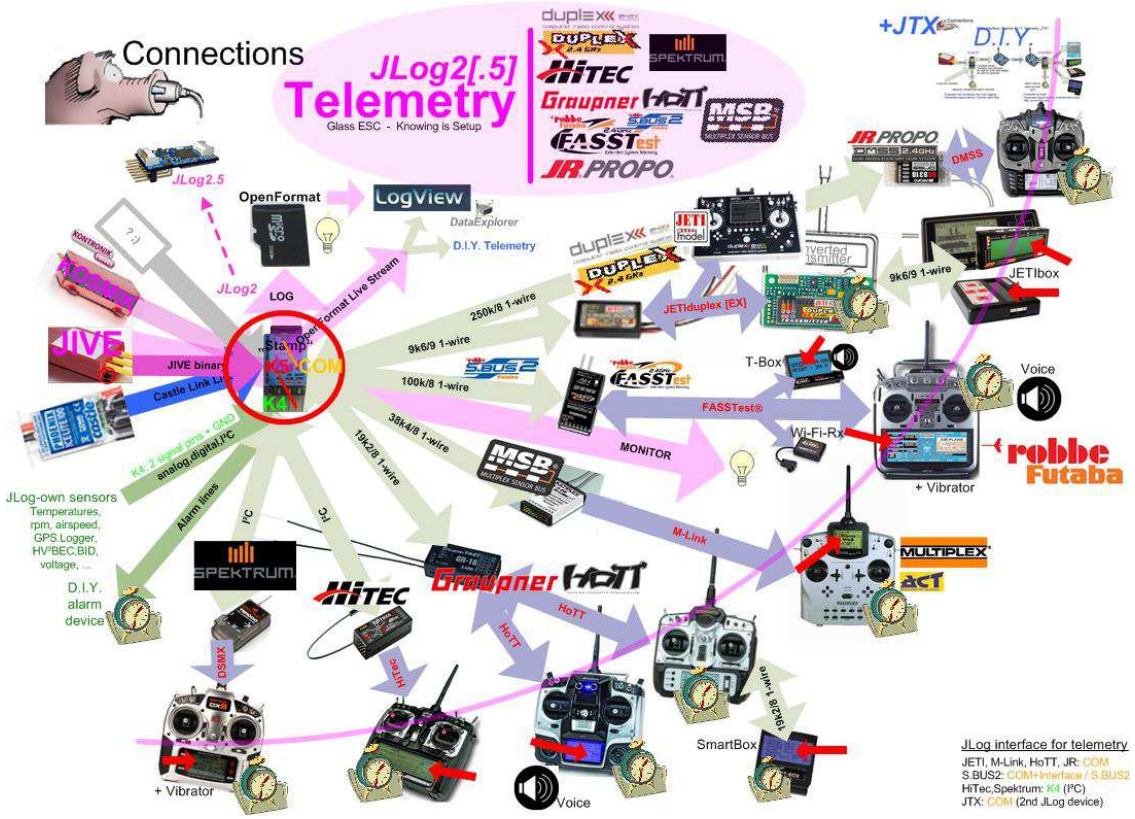
50s
1m 40s
2m 30s
3m 20s
4m 10s
5m 00s
5m 50s
6m 40s
Graph
Table
Digital view (Large)
Analog view
Compare curve



Example Application