

## Lemon Receiver Comparison (as of January 1, 2020)

DSM2™ and DSMX® are registered trademarks of Horizon Hobby Inc. Lemon receivers are original designs using different hardware components. There is no suggestion that they are copies of genuine Spektrum items. The terms "DSM2" and "DSMX" in this table are used as shorthand to mean an item made by Lemon that is compatible with a transmitter using the Spektrum DSM2™ and/or DSMX® data protocols. "DSMP" is a proprietary protocol created by Lemon RX which has additional functionality but is capable of backwards compatibility with the DSM2™ and DSMX® protocols.

### CURRENTLY AVAILABLE (or expected very soon)

DSMP Receivers (DSM2 and DSMX compatible)							
Name	LM #	Ch	Wt (g)	Voltage Range	Failsafe (Default/Optional)	Price (\$US)	Notes
6 Channel Feather Light	0021S 0019S 0019N	6	4.4 3.8 2.5	3.45-8.4	No pulse/User set	\$8.50	LM0021S and LM0019S have standard connectors. All are non-diversity with a single long antenna. There is no satellite port. Available in end pin (0021S) top pin (0019S), and pinless (0019N) versions
6 Channel Diversity Antenna	0034 0034T	6	4.5 4.2	3.45-8.4	No pulse/User set	\$15.25	Both have diversity antennas and satellite connector. Available in end pin (0034) and top pin (0034T)
7 Channel Telemetry with 60A V/I sensor	0051	7	9.7 Rx only	4.5-8.5	No pulse/Throttle preset/User set	\$49.90	Diversity antennas and satellite connector. Comes with external temperature probe plus RSSI out and pack voltage connection wires. Supplied with calibrated 5S #, 60 Amp sensor. No Altitude or Vario telemetry. XT60 and T plug options.
7 Channel Telemetry with Altitude/Vario & 60A V/I sensor	0052	7	9.7 Rx only	4.5-8.5	No pulse/ Throttle preset/User set	\$59.90	Diversity antennas and satellite connector. Comes with external temperature probe plus RSSI out and pack voltage connection wires. Supplied with calibrated 5S #, 60 Amp V/I sensor. XT60 and T plug options.
7 Channel Telemetry (no V/I sensor)	0051U	As for LM0051				\$39.90	0051U is supplied without the external V/I sensor.
7 Channel Telemetry with Altitude/Vario (no V/I sensor)	0052U	As for LM0052				\$49.90	0052U is supplied without the external V/I sensor.
7 Channel Telemetry with 130A sensor	0051 (EC5)	7	9.7 Rx only	4.5-8.5	No pulse/Throttle preset/User set	\$63.00	Like LM0051 but with 5S #, 130Amp high current sensor. EC5 connectors.
7 Channel Telemetry with Altitude/Vario & 130A sensor	0052 (EC5)	7	9.7 Rx only	4.5-8.5	No pulse/ Throttle preset/User set	\$73.00	Like LM0052 but with 5S #, 130Amp high current sensor. EC5 connectors.
10 Channel. Non-telemetry.	0040	10	12.3	3.45-8.5*	No pulse/User set	\$26.60	Diversity antennas. Has UART output and optional 11mS frame rate
7 Channel Microlight "brick" for indoor and other small models	0600	7	TBA	3.45-8.4	No pulse /User set	TBA	Stabilized receiver. Onboard micro servos for Aileron/Rudder and Elevator (ch 2 and 3). 5 Amp brushed ESC output for brushless (and throttle signal) on ch 1. Servo output on ch 4-7. All connectors JST-SH 1.00mm, as used on Lemon micro servos (1 or 2S) and Spektrum linear servos (1S only).
DSMP Satellite **	0037	NA	2.7	3.3-3.6	NA	\$13.10	Diversity antennas. Uses 3.3V from receiver. Binding requires connection to the receiver. (Can also be used as stand-alone with flight controller.***)

# The input voltage at the V/I sensor may be from 7.8V to 22V (or 2S to 5S LiPo). If using the voltage probe without V/I sensor up to 35V (8S) of input voltage is allowable at the voltage probe pin.

\* 10 channel receivers produced prior to mid-January 2020 are limited to 7.2V.

\*\* DSMP satellite must be used with a DSMX/DSMP receiver. The combination is then backward compatible with a DSM2 transmitter.

\*\*\* When a satellite is used alone as the receiver for a flight controller, binding can normally be done by the flight controller software.

## CURRENTLY AVAILABLE (Continued)

Stabilized Receivers (DSM2, DSMX and DSMP compatible).							
Name	LM #	Ch	Wt (g)	Voltage Range	Failsafe default/optional	Price (\$US)	Notes
Stabilizer – top pin, diversity	0005T	6/7 ^	8.3	3.45-8.4	No pulse	\$27.10	Satellite connector. Gyro stabilization only.
Stabilizer – end pin, diversity	0033E	6/7 ^	8.7	3.45-8.4	No pulse	\$27.10	Satellite connector. Gyro stabilization only.
StabilizerPLUS – top pin, diversity	0043T	6/7 ^	8.2	3.45-8.4	No pulse/User set	\$29.80	No satellite connector. Has autolevelling.
StabilizerPLUS – end pin, diversity	0044E	6/7 ^	8.7	3.45-8.4	No pulse/User set	\$29.80	No satellite connector. Has autolevelling.

Telemetry Sensors				
Name	LM #	Wt (g)	Price (\$US)	Note
Replacement T-Plug sensor	0036	9.3g	\$12.00	A calibrated V/I sensor is supplied with the discontinued stand-alone LM0029/0030 Telemetry system and the discontinued LM0041, as well as with the currently available LM0051 and 0052. Sensors purchased separately require user calibration.
Replacement XT-60 sensor	0035	11.3g	\$12.00	
Replacement 130Amp sensor	0036 (EC5)	39.0g	\$23.70	

## Notes

**Voltage (receivers):** All Lemon receivers manufactured after mid-January 2020 are capable of accepting at least 8.4V maximum voltage (i.e. 2S LiPo). However please note that receivers with integrated telemetry have a higher **minimum** voltage than those without. (For discontinued receivers manufactured before that date, see voltages shown below.)

**Voltage (satellites):** Satellites require only 3.3V to operate and **must not** be supplied with more than 3.6V. They automatically get the correct 3.3V when connected to a receiver but some flight controllers which can use a satellite as the sole receiver unit may supply 5V. At this voltage, the satellite will often work initially but it will eventually, and unpredictably, fail.

**Compatibility:** DSMX and DSMP receivers work with any DSMX or DSM2 transmitter. However, transmitters sold in the EU after 2014 are not permitted to use DSM2 and thus do not support the discontinued DSM2 receivers (see below). Older DSM2 transmitters are still legal in the EU, however. Note also that the Spektrum DXe transmitter does not support DSM2, regardless of location.

**Failsafe:** Default failsafe for all Lemon receivers is **No Pulse**. That is, all pulses stop if the signal is lost, relying on the ESC to stop the motor. This form of failsafe is not suitable for IC powered aircraft.

Some receivers have **Throttle Preset** failsafe, where Channel 1 failsafe is set by the throttle stick position at bind time; on other channels, the pulses stop if signal is lost. This type of failsafe is an option on the LM0051 and LM0052 Telemetry enabled 7 channel DSMP receivers. It is set by using the failsafe button.

Where available, **User Set** failsafe allows the position on signal loss to be set individually for ALL channels. It is set by using the failsafe button.

**Satellites:** The satellite type must match the receiver type. Both must both be either DSMX/DSMP or DSM2 (DSM2 units are discontinued). A DSMX/DSMP receiver with a DSMX satellite is compatible with both DSMX and DSM2 transmitters. A DSM2 receiver with a DSM2 satellite is compatible only with a DSM2 transmitter.

### ^ Stabilizers - Available Channels:

The standard Stabilizer has six servo channels (1-4, 6, 7) available in stabilized mode. Channel 5 is used to turn the stabilizer on and off and is therefore not normally useful for other functions. Channel 8, where available on the transmitter, is used for Master Gain and cannot be accessed. Stabilization can be deactivated by turning OFF on-board DIP switches 4 and 5; the unit then functions as a standard 7-channel unstabilized receiver.

The StabilizerPLUS has six or seven servo channels (1-4, 6, 8 OR 1-7) available in stabilized mode. Channel 5 is normally used to turn the stabilizer on and off, but the StabilizerPLUS can be configured in "Always-ON" mode, which releases the channel for another use. Channel 8, where available on the transmitter, is used for Master Gain and cannot be accessed. Stabilization can be deactivated by turning OFF on-board DIP switches 4 and 5; the unit can then be used as a standard 7-channel unstabilized receiver.

## DISCONTINUED UNITS

<b>DISCONTINUED DSM2 only Receivers</b>						
Name	LM #	Ch	Wt (g)	Voltage	Failsafe	Notes
Micro Light	0025	6	1.98	3.45-10.2	Throttle preset	Button for binding. 1.0mm JST connectors (AR6400 type)
Ultra Light	0026	6	2.26	3.45-10.2	Throttle preset	Button for binding. 1.5mm JST connectors (AR6300 type)
Feather Light	0019	6	2.96	3.45-10.2	Throttle preset	Plug for binding. Standard connectors. Twin short wire antennas. Available in top pin (0019) and end pin (0021) versions
Feather Light no pin	0023	6	1.43	3.45-10.2	Throttle preset	Plug for binding. No pin version without connectors.
8 channel	0015	8	11.60	3.45-7.2	No pulse/User set	Plug for binding. Has UART output and optional 11mS frame rate.
8 + satellite	0016	8	14.7	3.45-7.2	No pulse/User set	As above supplied with satellite.
10 channel	0017	10	12.18	3.45-7.2	No pulse/User set	Plug for binding. Has UART output and optional 11mS frame rate.
10 + satellite	0018	10	14.7	3.45-7.2	No pulse/User set	As above supplied with satellite.
DSM2 Satellite	0001		2.52			Uses 3.3V from receiver. Binding requires connection to Rx.

<b>DISCONTINUED Receivers (DSM2 and DSMX compatible)</b>						
Name	LM #	Ch	Wt (g)	Voltage	Failsafe	Notes
8 channel PPM	0039	8	3.03	3.45-7.2	No pulse/User set	Uses single standard connector for 8 channel PPM out (TAERG123 order). Twin diversity antennas and connector for optional satellite.
8 channel PPM + satellite	0007	8	5.2	3.45-7.2	No pulse/User set	Uses single standard connector for 8 channel PPM out (TAERG123 order). Single antenna receiver with non-diversity satellite.
7 Channel with Telemetry + PPM (TAER or AETR)	0041	7	9.66	4.5-7.2	No pulse/User set	Diversity antenna and satellite connector. Includes external temperature probe plus RSSI out and pack voltage connection wires. Accepts external current/voltage sensors 0035/0036/0036 (EC5). Provides PPM out for channels 1-7 via Aux1.

<b>DISCONTINUED Stand-alone Telemetry System. Connects to the bind pins on a standard non-telemetry receiver. Cannot be used with a telemetry enabled receiver.</b>						
Name	LM #	Wt (g)	Voltage	Notes		
T-plug version	0029	7.66g unit + 9.28g sensor	3.45-7.2	Voltage supplied from receiver. Optional 60A/30V V/I sensor.		
XT-60 plug version	0030	7.66g unit + 11.33g sensor	3.45-7.2	Voltage supplied from receiver. Optional 60A/30V V/I sensor.		

<b>DISCONTINUED Stabilizers (DSM2, DSMX and DSMP compatible). May still be available on Lemon website until existing stock runs out</b>						
Name	LM #	Ch	Wt (g)	Voltage	Failsafe	Notes
Stabilizer – top pin, single antenna	0005	6/7*	7.84	3.45-7.2	No pulse	Connector for optional satellite.
Stabilizer – top pin, diversity	0005D	6/7*	8.32	3.45-5.0	No pulse	Connector for optional satellite.
Stabilizer – end pin, single antenna	0032	6/7*	8.29	3.45-7.2	No pulse	Connector for optional satellite.
Stabilizer – end pin, diversity	0033	6/7*	8.65	3.45-7.2	No pulse	Connector for optional satellite.
Stabilizer – end pin, diversity	0033D	6/7*	8.65	3.45-5.0	No pulse	Connector for optional satellite.
StabPLUS – top pin, single antenna	0042	6/7*	8.00	3.45-7.2	No pulse/User set	No satellite connector.
StabPLUS – top pin, diversity	0043	6/7*	8.22	3.45-7.2	No pulse/User set	No satellite connector.
StabPLUS – top pin, diversity	0043D	6/7*	8.22	3.45-5.0	No pulse/User set	No satellite connector.
StabPLUS – end pin, diversity	0044	6/7*	8.72	3.45-7.2	No pulse/User set	No satellite connector.
StabPLUS – end pin, diversity	0044D	6/7*	8.72	3.45-5.0	No pulse/User set	No satellite connector.

NOTE: All current Lemon receivers are 8.4V capable. Earlier designs vary in their maximum voltage capability. Any that had a model number on the website with a D suffix should not be used on more than a 5V supply.