LOST MODEL FINDER
ADDENDUM – SOFTWARE REVISION 1.1

SOFTWARE ENHANCEMENTS:

Two software changes have been made to version 1.1 to improve the operation of the Lost Model Locator (LML – formerly Lost Model Finder - LMF).

IMPROVED LOW VOLTAGE DETECTION WARNING:

A low battery qualification period was added, such that the low battery warning will ***not*** sound until the battery voltage has dropped and remains below the trigger threshold, which is 1.15 volts per cell, or 4.6 volts for a 4-cell pack and 5.7 volts for a 5-cell pack. The voltage ***must*** continually remain below this threshold for approximately 1.5 seconds before the low battery warning will sound.

The LML with software **version 1.0**, would immediately sound the low battery warning if the voltage sagged below the trigger threshold. If a small capacity battery pack OR a battery pack constructed with high internal resistance cells was used to power a receiver and two or more, higher current servos, the LML may "chirp" at the beginning of the low battery warning. The battery voltage would quickly rebound when the servos stopped moving and the low battery warning would cease.

The LML with software version 1.1, requires the battery voltage remain below the threshold (1.15 volts per cell, or 4.6 volts for a 4-cell pack and 5.7 volts for a 5-cell pack) ***continuously*** for approximately 1.5 seconds before the low battery tone will sound. If the voltage spikes below threshold for less than 1.5 seconds, then rebounds, the 1.5 second counter is reset. In other words, multiple random voltage sags below the threshold ***will not*** trigger the low battery warning, unless a single, continuous, battery voltage sag lasts longer than 1.5 seconds.

EXTENDED TESTING AND QUALIFICATION OF PULSE WIDTH INPUT:

The LML with software **version 1.0**, would sound the lost model tone if there were ***no*** positive going pulses detected from the receiver/servo input to the LML.

This test procedure was enhanced with version 1.1 to allow lost tone activation with PCM receivers, receivers whose signal remains high when the corresponding transmitter is turned off, receivers whose signal remains low when the corresponding transmitter is turned off, or a transmitter switch programmed to activate the lost tone.

If the signal input remains high, without any pulses or activity for 35ms or more then the lost model tone will sound. If the signal input remains low, without any pulses or activity for 35ms or more then the lost model tone will sound. If a pulse occurs with a duration of 1 millisecond or less, then the lost model tone will sound.

COMPUTER RADIO PROGAMMING EXAMPLES:

Airtronics Stylus with PCM receiver (p/n 92185):

Plug the Lost Model Locator in channel #8 (GEAR) of the receiver.

Scroll to the Modulation menu (MOD) and select PCM.

You need to temporarily assign a switch to the GEAR function so that you can edit the respective values in that menu. Scroll to the Switch menu (SW), then scroll to GEAR and assign switch #11. Before leaving, flip the ALT switch immediately above the throttle/flap stick and verify that the switches status changes from OFF (down) to ON (up).

Scroll to the GEAR menu. With the ALT switch UP, the display should show GEAR-1. Enter 150%. Flip the ALT switch down and the display should show GEAR-2. Enter –150 (negative 150%).

Scroll to the Fail-Safe menu (F-SAFE) and inside that menu, scroll to GEAR (GE). With the ALT switch in the down position, press the YES/+ key and the display should show –150%.

With the transmitter powered up and the ALT switch in the UP position, power up the receiver. After the LML beeps the number of cells in the battery pack, power down the Stylus transmitter and the LML should sound the lost model tone. Power the Stylus back up and the lost model tone should stop.

If you flip the ALT switch to the DOWN position the lost model tone will sound. If you are using the ALT switch for other functions or do not wish to have the switch trigger the lost model tone, then scroll to the switch menu (SW) and clear the switch assignment for GEAR to 0.

Airtronics Stylus with PPM receiver and switch activated lost tone:

Plug the Lost Model Locator in channel #8 (GEAR) of the receiver.
Scroll to the Modulation menu (MOD) and select PPM or PPM-INV, whichever is appropriate for the receiver that you are using.

You need to assign a switch to the GEAR function so that you can edit the respective values in that menu. This switch will also activate the lost model tone. Scroll to the Switch menu (SW), then scroll to GEAR and assign switch #11. Before leaving, flip the ALT switch immediately above the throttle/flap stick and verify that the switches status changes from OFF (down) to ON (up).

Scroll to the GEAR menu. With the ALT switch UP, the display should show GEAR-1. Enter 150%. Flip the ALT switch down and the display should show GEAR-2. Enter –150 (negative 150%).

With the transmitter powered up and the ALT switch in the UP position, power up the receiver. After the LML beeps the number of cells in the battery pack, power down the Stylus transmitter and the LML should sound the lost model tone. Power the Stylus back up and the lost model tone should stop.

If you flip the ALT switch to the DOWN position the lost model tone will sound. If the lost model tone sounds when the switch is flipped up and you prefer the opposite direction, either you can go to the Reverse menu (REV) and flip the direction of channel #8 OR you can go to the GEAR menu and enter –150% in GEAR-1 and 150% in GEAR-2.

If you would prefer the LML to be located on a different physical channel or use a smaller receiver with fewer channels, then you can re-map the GEAR function to a different channel by doing the following:

Decide which channel where you would like the LML to be located. Let's assume that you have chosen the Left Flap channel (this example has the Advanced Glider Card installed). Plug the LML into channel #6 of the receiver.

Scroll to the switch menu (SW) and scroll to C-MIX1. Set the switch assignment to always be ON. Scroll to the EPA menu and set the value for the Left Flap to 0% for ***both*** directions of the flap stick. This prevents any flap or flap stick movement from mixing into the re-mapped Gear channel that will be controlling the LML.

Scroll to the C-MIX menu and select C-MIX #1. Scroll to the second line and set the Master (MAS) to Gear (GE) and the Slave (SLA) to Left Flap (LF). Scroll back to the first line and set the percentage of travel to 150% then flip the switch earlier assigned to the LML activation and set the percentage of travel to 150%.

With the transmitter and receiver turned ON and the LML plugged into channel #6, the lost model tone can be activated or de-activated by flipping the ALT switch or whatever switch you've assigned to the Gear.

Airtronics Vision with PCM receiver and switch activated lost tone:

Plug the Lost Model Locator into the channel #8 as designated for GEAR control and detailed in the operator's manual.

Scroll to the Modulation menu (MOD) and select PCM8 modulation as detailed in the operator's manual.

You need to enable the gear switch, which is the top, right, forward toggle switch. Scroll to the CONFIG column then down to Gear Mode? And press INC so that the display shows "YES". Move to the SURFACE column. Scroll down to the Gear Travel (GEAR TV1) menu and enter 100%. Scroll down to the next Gear Travel (GEAR TV2) menu and enter –75%.

With the transmitter powered up and the GEAR switch pressed away from you, power up the receiver. After the LML beeps the number of cells in the battery pack, flip the GEAR

switch toward you and the lost model tone will sound. If you prefer the opposite switch direction, either you can go to the Reverse menu under CONFIG and flip the GEAR channel direction OR you can go to the GEAR Travel menus and enter transpose the travel values between Gear TV1 and Gear TV2.

With the switch in the position that enables the lost model tone, scroll to the CONFIG column then down to ENABLE FS?. Respond "YES". Scroll down to the next item, SEND FS?. Press "<-ENT" **and** "ENT->" at the same time. The lost model tone will sound when the transmitter is powered OFF.

Airtronics Vision with PPM receiver and switch activated lost tone:

Plug the Lost Model Locator into the channel designated for GEAR control as detailed in the operator's manual.

Scroll to the Modulation menu (MOD) and select the appropriate receiver modulation as detailed in the operator's manual.

You need to enable the gear switch, which is the top, right, forward toggle switch. Scroll to the CONFIG column then down to Gear Mode? And press INC so that the display shows "YES". Scroll to the SURFACE column. Scroll down to the Gear Travel (GEAR TV1) menu and enter 100%. Scroll down to the next Gear Travel (GEAR TV2) menu and enter –75%.

With the transmitter powered up and the GEAR switch pressed away from you, power up the receiver. After the LML beeps the number of cells in the battery pack, flip the GEAR switch toward you and the lost model tone will sound. If you prefer the opposite switch direction, either you can go to the Reverse menu under CONFIG and flip the GEAR channel direction OR you can go to the GEAR Travel menus and enter transpose the travel values between Gear TV1 and Gear TV2.

JR-XP8103 with PCM receiver and switch activated lost tone:

Plug the Lost Model Locator into the GEAR channel #5 (ACRO mode) as designated for GEAR control and detailed in the operator's manual.

Scroll to the Modulation menu (MOD) and select Z-PCM modulation or as appropriate as detailed in the operator's manual.

Scroll to the Travel Adjust menu (TRVL ADJ) and move to the Gear travels. Set the top value to +100%. Flip the gear switch (top, front, left switch) to its opposite direction, and set the lower Gear travel to –150%.

With the transmitter powered up, power up the receiver. After the LML beeps the number of cells in the battery pack, flip the GEAR switch and the lost model tone will sound. If you prefer the opposite switch direction, either you can go to the Reverse menu and reverse the GEAR channel direction OR you can go to the GEAR Travel menus and enter transpose the travel values.

With the switch in the position that enables the lost model tone, scroll to the Fail Safe screen. Press the "L/+" key until 1.0 sec is displayed. Next press the CLEAR key to send the Fail Safe value to the receiver. Flip the GEAR switch to turn off the lost model tone. The lost model tone will sound when the transmitter is powered OFF for more than 1.0 seconds.

JR-XP8103 with PPM receiver and switch activated lost tone:

Plug the Lost Model Locator into the GEAR channel #5 (ACRO mode) as designated for GEAR control and detailed in the operator's manual.

Scroll to the Modulation menu (MOD) and select PPM modulation or as detailed in the operator's manual.

Scroll to the Travel Adjust menu (TRVL ADJ) and move to the Gear travels. Set the top value to +100%. Flip the gear switch (top, front, left switch) to its opposite direction, and set the lower Gear travel to –150%.

With the transmitter powered up, power up the receiver. After the LML beeps the number of cells in the battery pack, flip the GEAR switch and the lost model tone will sound. If you prefer the opposite switch direction, either you can go to the Reverse menu and reverse the GEAR channel direction OR you can go to the GEAR Travel menus and enter transpose the travel values.

TROUBLESHOOTING SUGGESTIONS:

If you feel that you are getting false low voltage tones, first verify that you are using a fully charged 4 or 5-cell NiCAD or NiMH battery pack.

If the low voltage tone is still present, plug the battery directly into the receiver, side-stepping the switch harness. If the low voltage tone begins working properly, then replace the switch harness.

If the low voltage tone is still present, try a different battery pack. If the low voltage tone works properly, then examine the wires on the battery pack and replace the wires or replace the entire battery pack.

If the low voltage tone is present when multiple servos are actuated at once, move the stick to actuate one servo at a time while continuously moving the stick for at least 2 seconds on that axis. If the low voltage tone is activated when the same servo is actuated, then check that servo for linkage or surface binding. If no binding is found, then replace the servo.

TRANSMITTERS AND RECEIVERS TESTED:

Transmitter:	Airtronics Stylus
	Airtronics Vision
	JR-X347
	JR-X388S
	JR-XP8103
Receivers:	Airtronics PCM (p/n 92185)
	Airtronics PCM (p/n 92985)
	Airtronics PPM (p/n 92777)
	Hitec Super Slim
	Hitec Micro 555 (p/n RCD8600)
	Hitec Platinum (p/n RCD3400)
	JR PCM 7 channel (NER-627XZ)
	JR PPM 9 channel (NER-549X)
	JR PPM 7 channel (NER-327X)
	JR PPM 6 channel (R610)
	Berg Mini PPM 6 channel
	Berg 5 DSP II
	Berg 4 Micro Stamp
	FMA M5
	FMA Magnum 8
	FMA Magnum 6
	FMA Extreme 5
	FMA Tetra
	Multiplex Mini-DS-IPD