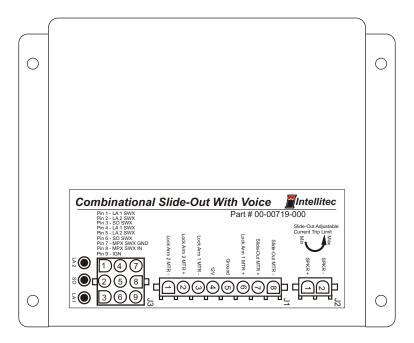
## SERVICE MANUAL



P/N 00-00719-000

#### **CAUTION:**

The COMBINATION SLIDE OUT CONTROLLER W/VOICE is a power switching controller used to operate a slide out room in an RV. Power from the battery of the vehicle is fed to this control. Inadvertent shorts at this box could result in damage and/or injury.

All servicing of this box should be done only by a qualified Service Technician.

Tools required: Low current test light, DC voltmeter

### **PRODUCT DESCRIPTION**

The Combination Slide-out Controller with Voice functions as three controllers. It independently controls two lock arm motors and a slide-out motor. The controller depends on several inputs: Lock Arm 1 Switch, Lock Arm 2 Switch, Slide-out Switch, MPX Switch, and an Ignition Input Signal, which is used to lock out control module.

#### THE MPX SWITCH

The MPX Switch is a momentary rocker switch used to allow the user to select a run/stop mode of the Controller. The MPX switch is connected to the Controller through connector J3 pins 8 (MPX IN) and 7 (MPX GROUND)

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#### **LED INDICATORS**

Three LED's are supplied for indication of three input switches. When a run condition exists, the LED's will indicate the position of the selected switch. The LA 1 LED will be *ON* if lock arm 1 is in the unlock position (closed switch). The LA 2 LED will be *ON* if lock arm 2 is in the unlock position (closed switch). The slide-out LED will be *ON* if Slide-out is flush with the RV (closed switch). The indicating LED's will turn *OFF* when the following conditions have been satisfied: the Controller is in a stop mode and no motor is energized.

#### **VOICE MESSAGE**

Upon every run requested by the user, (pressing the MPX switch) a voice message will start to play to an external 8 ohm speaker, through connector J2, where pin 1 is speaker + and pin 2 is speaker -. A volume control pot (R59) is on the Controller to initially set the sound level of the voice message. The voice message is as follows: "Your lock arms are unlocking. Please be certain all persons seats, chairs and other obstacles are clear of the slide-out area. There will be a 5 second delay for any necessary adjustments".

### **LOCKARM MOTORS**

During the voice message the Controller will start energizing the lock arm motors. The lock arm motors will stay energized until one of the following conditions are met: Both lock arm motors reach current trip level of 2A-8A (adjustable with R13), or 30 second time limit (if reached the following LED's will flash ON/OFF: MPX switch, LA1 & LA2).

#### SLIDE-OUT MOTOR CONTROL

The Slide-out Controller has two modes, extend out and return in. To initiate a change from one mode to another certain criteria have to be satisfied.

#### TO EXTEND SLIDE ROOM OUT

Extending the Slide-out will occur when the following criteria have been satisfied:

- (A) Ignition signal OFF
- (B) lock arm 1 switch in the CLOSED state (indicates lock arm unlocked)
- (C) lock arm 2 switch in the CLOSED state (indicates lock arm unlocked)
- (D) Slide-out switch in the CLOSED state (indicates slide-out is flush with RV)
- (E) No lock arm motors energized

After all the criteria have been met, then the Slide-out motor is energized with relay K1. The Slide-out motor is connected to J1 pins 7 and 8. The polarity in this state is the following: pin 7 is + and pin 8 is -.

The Slide-out motor stays energized until one of the following conditions are met:

- (A) Slide-out motor reaches the adjustable current trip level of 4-21A can be adjusted with R9
- (B) The user pushes the MPX switch to manually stop mode
- (C) Ignition signal is turned ON

### RETURN SLIDE ROOM IN

Returning the Slide-out will occur when the following criteria have been satisfied:

- (A) Ignition signal OFF
- (B) Lock arm 1 switch in the CLOSED state (indicates lock arm unlocked)
- (C) Lock arm 2 switch in the CLOSED state (indicates lock arm unlocked)
- (D) Slide-out switch in the OPEN state (indicates Slide-out is not flush with RV)
- (E) No lock arm motors energized

After all criteria have been met, then the Slide-out motor is energized with relay K1. The Slide-out motor is connected to J1 pins 7 and 8. The polarity in this state is the following: pin 7 is - and pin 8 is +.

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The Slide-out motor stays energized until one of the following conditions are met:

- (A) Slide-out motor reaches the adjustable current trip level of 4-21A (current limit adjusted using R9)
- (B) Ignition signal is turned ON

The Slide-out Controller measures motor current to sense when the mechanism reaches the end of its travel. When the current exceeds a pre-set level the Controller will shut *OFF*. This current level is adjustable by a potentiometer, which is mounted on the unit. If the current is set too low, the mechanism will stop before it reaches the end of travel or during start-up. If it is set too high, it may damage the mechanism or loosen the trim of the room.

### **NOTE**

## The current adjustment pot only turns 270 degrees. ATTEMPTS TO FORCE IT FURTHER WILL DAMAGE IT.

- 1. USING A SMALL SCREWDRIVER, CENTER THE POT.
- 2. OPERATE THE ROOM IN BOTH DIRECTIONS TO CHECK OPERATION.
  - A) If the Controller stops before the room reaches its normal stop, adjust the pot counter-clockwise about 20 degrees and try again. Repeat if necessary within the limits of the pot.
  - B) If the room hits its stop too hard, adjust the pot clockwise about 20 degrees and try again. Repeat if necessary within the limits of the pot.
  - C) Repeat steps A and B with finer adjustments if desired.

THE CONTROLLER IS NOW ADJUSTED FOR NORMAL OPERATION.

#### SLIDE-OUT CONTROL MODULE PLUGS, PINS AND FUNCTIONS

### J1 = 8 Pin Mate-N-Lok connector (Power and Motor Control)

Pin	Function
1	Lock ARM 2 Motor (polarity to unlock lock arm)
2	Lock Arm 2 Motor + (polarity to unlock lock arm)
3	Lock Arm 1 Motor (polarity to unlock lock arm)
4	+ 12V Battery Fused
5	Chassis Ground
6	Lock Arm 1 Motor + (polarity to unlock lock arm)
7	Slide-Out Motor + (polarity to extend slide room out)
8	Slide-Out Motor (polarity to extend slide room out)

## J2 = 2 Pin Mate-N- Lok Connector (Speaker Output)

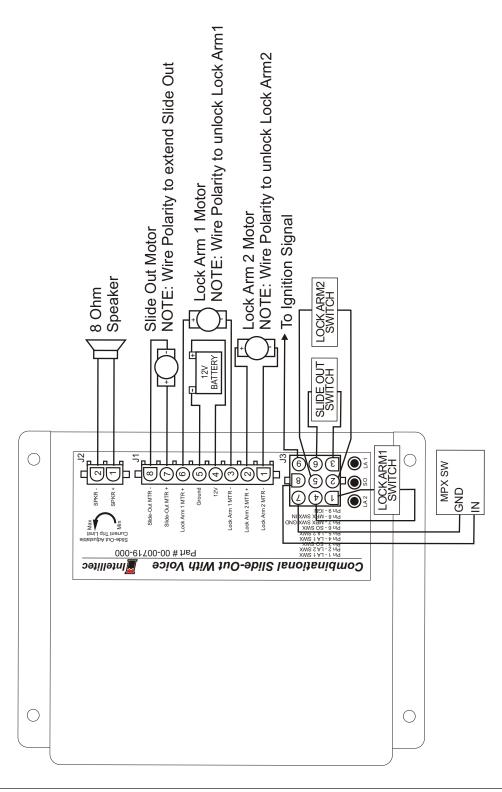
Pin	Functions
1	Speaker + Output
2	Speaker - Output

### J3 = 9 Pin Mate-N-Lok connector (Switch Signal Inputs)

Functions
Lock Arm1 Switch Input (LA1 SWX)
Lock Arm 2 Switch Input (LA2 SWX)
Slide Out Switch Input (SO SWX)
Lock Arm 1 Switch Input (LA1 SWX)
Lock Arm 2 Switch Input (LA2 SWX)
Slide Out Switch Input (SO SWX)
MPX Switch GND
MPX Switch Input
Ignition Signal Input

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TYPICAL INSTALLATION

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