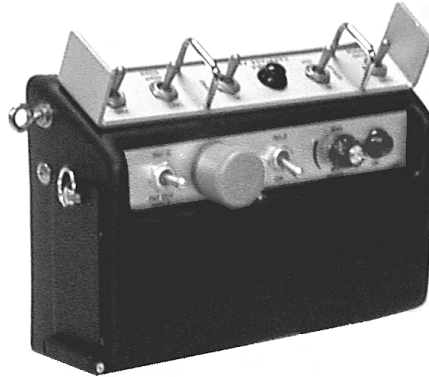


# **MODEL R1300**

## **RADIO CONTROL SYSTEM**



**FOR**

## **ALTEC AD108 TRAILER REEL**



#74 - 1833 COAST MERIDIAN ROAD PORT COQUITLAM, B.C. V3C 6G5  
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### Important User Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including that which may cause undesired operation.

Changes or modifications not expressly approved by OMNEX Control Systems Inc. can void the users authority to operate this equipment!

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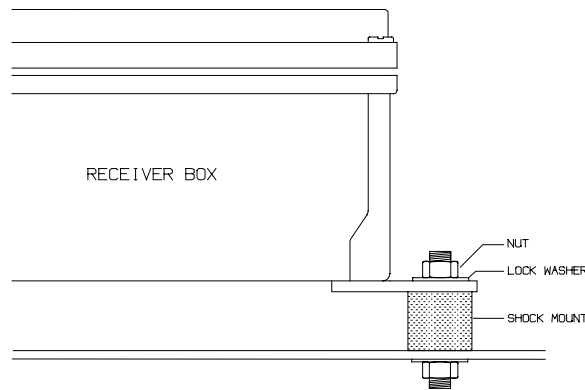
## INSTALLATION

### MOUNTING THE RECEIVER:

Select a suitable location on the machine that will protect the receiver box from impact damage. A location that protects the receiver from direct exposure to the weather is desirable. If the box must be located outside, mount it with the power and antenna cables facing *down* to allow water to drain away.

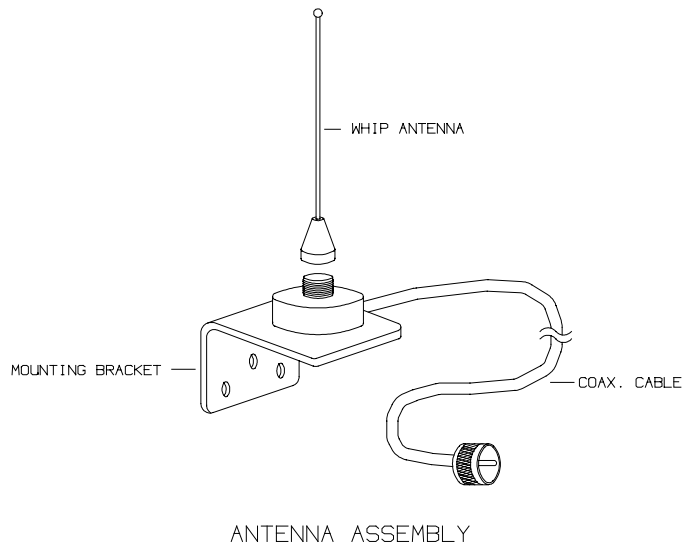
**! IMPORTANT:**

*The receiver box is supplied with rubber shock mounts to prevent damage from shock or vibration. Be sure to install the shock mounts on machines that vibrate during operation or transport! Use only the mounting flanges provided on the box. Do not drill into the receiver box!*



**MOUNTING THE RECEIVER ANTENNA:**

The receiver antenna assembly consists of a mounting bracket with attached coax. cable, and a removable whip antenna. The mounting bracket should be located as high as possible on the *outside* of the machine such that the whip antenna is vertical. The bracket may be bolted to the metal frame but do not allow the antenna whip to contact metal parts.



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## INSTALLATION

**RECEIVER WIRING:**

The receiver box is supplied with a 3 ft. "pigtail" cable that must be connected to the machine remote control interface. The wires in the pigtail cable are individually labeled as to function. The following chart relates the receiver connector wiring to the machine functions:

FUNCTION	CONNECTOR PIN #
Ground	A
-	B
+12 Volt Power In*	C
-	D
-	E
Function Speed	F
-	G
Wheels FWD.	H
Wheels REV.	J
Reels PAY IN	K
Reels PAY OUT	L
Carriage LOAD	M
Carriage UNLOAD	N
Steer LEFT	P
Steer RIGHT	R
-	S
-	T
-	U
-	V
-	W
-	X
-	Z
-	a
-	b
-	c
ST/SIDE IN	d
ST/SIDE OUT	e
CB/SIDE IN	f
CB/SIDE OUT	g
-	h
-	j
-	k
HI/LO ON	m
-	n
-	p
+12 Volt Power In *	r
-	s

***\* Both power wires (C and r) must be connected to 12 volts for proper operation.***

The receiver also contains a separate ground lug and wire. Connect the ground lug to a solid, clean ground point on the machine.

## **OPERATION**

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### **TRANSMITTER:**

**Switching the Transmitter ON and OFF:**

To switch on the transmitter first release the red STOP button by turning clockwise, then momentarily press the ON button. (The transmitter will not switch on if the STOP button is depressed). The ON light will glow red indicating the transmitter is on and ready to use. The receiver will now respond to the function switches. When finished operating depress the STOP button to switch off the transmitter and disable the receiver output relays.

#### **Enable Button:**

The Wheels and Reels switches will not operate unless the Enable button is also pressed "at the same time".

#### **Auto Shut-Off:**

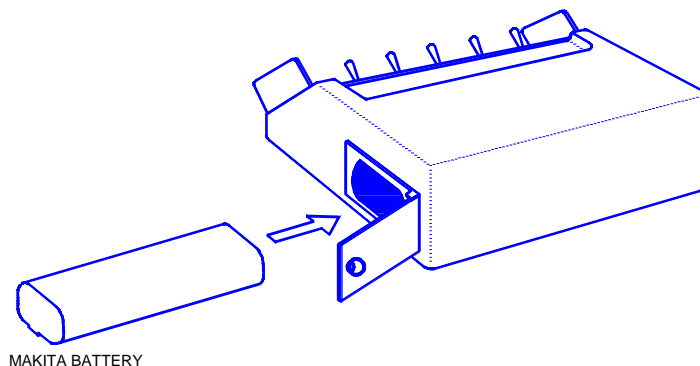
The transmitter incorporates an auto shut-off feature. If no control switches are operated over a three minute period, the transmitter will switch off automatically. The ON switch must then be pressed again to resume operation.

#### **Battery Indicator:**

The ON light is also used to indicate battery level. When the light is solidly on, the battery level is acceptable. If it blinks, the batteries require charging.

#### **Charging the Transmitter Battery:**

The transmitter is powered by a standard 9.6V Makita power tool battery, and a Makita charger is supplied to re-charge the battery. Please read the instructions provided with the Makita charger. To remove the battery, grasp the ring on the battery door and turn counter-clockwise to release the locking mechanism. The door may now be opened and the case tilted to allow the battery to slide out. (A slight "tap" is sometimes necessary to dislodge the battery from the contact terminals.)



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## **OPERATION**

#### **RECEIVER:**

The receiver will be operational when power is applied. It does not contain a power switch. Three LED indicator lights on the lid are used to verify proper operation. The lights are labeled Power, ID and Link and function as follows:

## POWER:

Indicates that 12 volt DC power is applied to the receiver.

## ID:

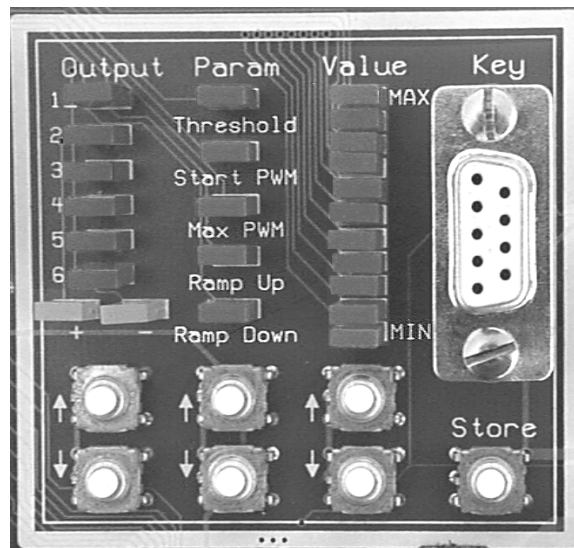
Indicates that information from the transmitter is being successfully received. If the light flickers occasionally this indicates that interference is present on some frequencies. This is not a problem since this is a spread spectrum system and changes frequency many times each second.

## LINK:

Indicates that the radio link between the transmitter and receiver is reliable. If the link is not reliable, power is removed from the receiver output drivers.

## CONFIGURING THE PROPORTIONAL SPEED OUTPUT:

The receiver contains a configuration panel that allows you to customize the operation of the function speed control. The panel appears as shown below:



To enable the configuration panel, plug in the user configuration key supplied. The display will initially be displaying "Output" 1 + , no "Param" lights will be illuminated, and the "Value" lights will be displaying the Start PWM and MAX PWM as solid lights, and the actual speed output as a flashing light. The flashing light will move as the speed dial on the transmitter is rotated. You will also see the green light next to the 1+ output go brighter and dimmer.

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## OPERATION

**Note:** You will notice that the control panel has 6 "output" lights. This is because the receiver is capable of controlling the parameters for up to 6 proportional functions. In this particular application, however, only a single proportional output is needed, and this has been assigned to output #1. Also, the Parameter setting options: Threshold, Ramp Up and Ramp Down, will not apply to the simple potentiometer control provided on the Altec system. (These are used in other applications that require joystick type controls). In

*this application, only the Start PWM and Max PWM will be of concern. These set the endpoints (min and max) of the speed potentiometer.*

To change a parameter, press the buttons under the "Param" lights until the desired parameter is lit up. In this application select only Start PWM or Max PWM. The other selections do not apply! The "Value" lights will now show one solid light indicating where the selected parameter is currently set, in relation to the MAX and MIN values allowed for that particular parameter. Press the buttons below the "Value" lights to raise or lower the parameter. Note that the light may not move for each time you press a button, but that the parameter is actually changing (there are not enough lights to show every step). To change a parameter a long way, press and hold the button and it will auto-repeat as on a computer keyboard.

When you are happy with the way the parameters are set up, press the "Store" button. All of the lights will come on to indicate that the new parameters have been stored. If you wish not to save the changes you have made, simply unplug the key, then, you can plug the key back in and start again from the original settings. If you have stored a new set of parameters which are so far off from values which the machine will operate with, press and hold the "Store" button until all the lights begin to flash. Release the button and all of the parameters will be reset to factory default values.

**IMPORTANT:** Do not leave the key plugged in after you have completed the set-up procedure. Leaving the key may allow someone to change the parameters accidentally, as well as allow long term vibration to damage the key.

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## **BASIC TROUBLESHOOTING**

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The most common cause for a previously operating system not to respond is a low transmitter battery. Always check the battery indicator light first. If it is blinking, or does not light at all, replace the battery with a charged one and try again. If the battery indicator does not light with a good battery, a transmitter fault is indicated requiring factory repair. The transmitter contains no user serviceable parts. (Also remember that the transmitter will not operate if the red STOP button has been depressed. Check this!) If the battery indicator lights and the system still does not respond, proceed with the following steps to help isolate the problem:

**STEP ONE:**

Check the Power, ID and Link lights on the lid of receiver. With the transmitter switched OFF only the red Power light should be on. When the transmitter is switched ON, the ID and Link lights should also come on. If this is so, proceed to step two. If the lights do not operate, open the lid of the receiver box. Inside you will find a radio receiver module on the lid and a circuit board inside. Located on the circuit board are two green lights labeled as DRIVE PWR and MICRO PWR (Do not be concerned with the flashing lights on the configuration panel). When power is applied to the receiver, and the transmitter switched ON, both these lights should be on. If so proceed to step two. If not, check the condition of 10 amp. fuses F2 and F3 on the circuit board. Disconnect power to the receiver before removing fuses! A fuse that keeps blowing indicates a short circuit, check the wiring carefully. If the fuses are OK a circuit fault on the circuit board is indicated.

**STEP TWO:**

Observe the red and green lights on the red receiver module located on the *inside* of the lid. With the transmitter switched OFF, only the red light should be on. If it is not a receiver fault is indicated. If the red light is on, switch on the transmitter. The green light should now also be on. If it is proceed to step three. If not, a fault could exist in either the transmitter or receiver.

**STEP THREE:**

Observe the green lights located in a long row along one side of the circuit board while operating the various transmitter controls. Each machine function will have an associated light as indicated in the following chart. When operating proportional functions, the lights will change in intensity. Digital functions will just switch on or off.

**MACHINE FUNCTIONS VS RECEIVER INDICATOR LIGHTS:**

<b>FUNCTION</b>	<b>INDICATOR LIGHT</b>
Function Speed	1+
Wheels FWD.	2+
Wheels REV	2-
Reels PAY IN	3+
Reels PAY OUT	3-
Carriage LOAD	4+
Carriage UNLOAD	4-
Steer LEFT	5+
Steer RIGHT	5-
ST/SIDE IN	D1
ST/SIDE OUT	D2
CB/SIDE IN	D3
CB/SIDE OUT	D4
HI/LO ON	D8

## **WARRANTY**

**OMNEX CONTROL SYSTEMS INC.** Warrants to the original purchaser that the **OMNEX** radio remote control system is free from defects in materials and workmanship under normal use and service for a period of **ONE YEAR** parts (**EXCLUDING: SWITCHES, CRYSTALS, OR**



**PARTS SUBJECTED TO UNAUTHORIZED REPAIR OR MODIFICATION)** and labor from the date of delivery as evidenced by a copy of the receipt. **OMNEX's** entire liability and your exclusive remedy shall be, at **OMNEX's** option, either the (a) repair or (b) replacement of the **OMNEX** radio control system, which is returned to **OMNEX** *freight prepaid* with a copy of the receipt. If failure has resulted from accident, abuse or misapplication, **OMNEX** shall have no responsibility to repair or replace. In no event shall **OMNEX** be responsible for incidental or consequential damage caused by defects in its products, whether such damage occurs or is discovered before or after replacement or repair, and whether or not such damage is caused by the negligence of **OMNEX CONTROL SYSTEMS INC.**

Neither **OMNEX** nor its Distributor shall be liable for any delay or failure in the performance of any of its obligations under this agreement caused by acts of God, strikes, other labor disturbances, embargoes, boycotts, shortage of parts or any cause beyond its reasonable control.