
PRODUCT: AUTOMATED CATWALKS
Model Series PC2000 – PC5000

DATE: October 03, 2011

SUBJECT: Cavotec Radio Control Unit

SERIAL NUMBERS: Installed on new PC2000- PC5000 units beginning August 2011
Retrofittable for PC2000-PC5000 units built through July 2011 with Hetronic
Radio Control Unit

DISCUSSION:

The manufacturer for the radio control unit has been changed from Hetronic to Cavotec. Some of the major features and advantages of the Cavotec unit are listed below:

- Heavy duty construction suitable for rig environment.
- Intrinsically safe, IECEx rated terminal and base unit in both wired and wireless configuration.
- Improved range and signal reliability.
- Signal encoding unique to each terminal / base unit set prevents unintended operation of nearby units.
- LED with variable blinking sequences provides status and error code information for ease of troubleshooting.
- 50m cable provided for backup in case of radio failure.
- Available with powder coated steel pedestal with 1-1/2" pipe thread base for direct mounting to rig floor.
- Adapter plate allows hassle-free replacement of existing base units.

The Cavotec radio control unit has been installed on new production units beginning August 2011 and is currently available as a retrofit replacement for the Hetronic radio control unit on Catwalks built prior to August 2011.

The part number for the complete assembly minus the pedestal is AY50808. The pedestal part number is DT50457.

The AY50808 assembly consists of the following components:

- 1) Terminal, Canrig P/N E14991, 1 ea (Figure 1)
- 2) Base Unit, Canrig P/N E14992, 1 ea (Figure 2)
- 3) Vibration Attenuators, No Canrig P/N, 4 ea (Figure 3)
- 4) Antenna, Canrig P/N E15040, 1 ea (Figure 4)
- 5) Battery, Canrig P/N E14994, 2 ea (Figure 5)
- 6) Battery Charger, Canrig P/N E14993, 1 ea (Figure 6)
- 7) 50m Umbilical Cable, Canrig P/N E15039, 1 ea (Figure 7)
- 8) 1.5m Antenna Cable, No Canrig P/N, 1 ea (Figure 8)
- 9) 2m Conductor Cable & Plug, No Canrig P/N, 1 ea (Figure 9)
- 10) 24 pole Insert & Hood with Cable Gland, No Canrig P/N, 1 ea (Figure 10)
- 11) Support Strap, No Canrig P/N, 1 ea (Figure 11)
- 12) Documentation CD, No Canrig P/N, 1 ea (Figure 12)



Figure 1



Figure 2

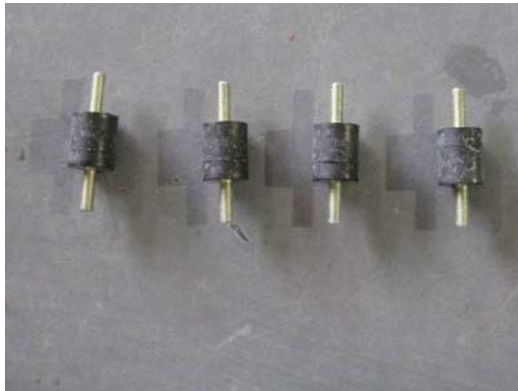


Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9



Figure 10



Figure 11



Figure 12

RECOMMENDATION:

For field retrofits, supplemental kit AY50865 is required to complete the installation. The AY50865 kit includes the following components:

- 1) Strain Relief, 1/2 NPT, 0.375-0.500, Canrig P/N E04-2002-010, 1 ea
- 2) Sealing Ring, 1/2 NPT, Canrig P/N E04-2027-010, 1 ea
- 3) Locknut, Conduit Fitting, 1/2 NPT, Canrig P/N E04-5046-010, 1 ea
- 4) Hole Cutter, 7/8, Canrig P/N E10742, 1 ea
- 5) Capscrew, Hex Hd, 1/4-20 UNC x 5, Gr 8, Canrig P/N HH-0250NC-0500-GR8, 4 ea
- 6) Washer, F, 1/4, Plain, Type A, Canrig P/N FW-0250-A, 4 ea
- 7) Lockwasher, 1/4, External Tooth, Canrig P/N LW-0250-ET, 4 ea
- 8) Locknut, 1/4-20 UNC, Gr 8, Stover, Canrig P/N LN-0250NC-GR8, 4 ea

Follow the below procedure to complete a retrofit installation.

1. Return skate and lift arm to stowed position.
2. Disconnect all power. Follow local lock out and tag out procedures.
3. Lift floor panel covering Catwalk electrical panel and open electrical panel.
4. Remove Hetronic base unit from panel.
5. An adapter plate is provided with the Cavotec base unit to allow it to be installed in the existing Hetronic base unit mounting holes. Align the vibration attenuators (Figure 3) with the existing holes and place the Cavotec base unit (Figure 2) on top. Fasten in place with the 1/4" fasteners supplied with the AY50865 kit. See Figure 13.



Figure 13

6. Drill a 7/8 inch hole using the hole cutter provided in the installation kit in the end of the electrical panels next to the antenna approximately 1.5 inches down and 1 inch to the right. Place rags in box to catch metal shavings. See Figure 14.



Figure 14

7. Slide strain relief with weather seal onto 2m conductor cable (Figure 9) until receptacle end of cable is approximately 8-10 inches from edge of strain relief. Insert pigtail end of conductor cable through hole, add lock ring, and tighten strain relief. See Figure 15.



Figure 15

8. Insert pigtail end of conductor cable through strain relief on the bottom of the base unit and tighten. Attach wires A, B, +9 VDC, 0 VDC & ground to the appropriate barrier terminal or lug. See Figures 16 and 17.

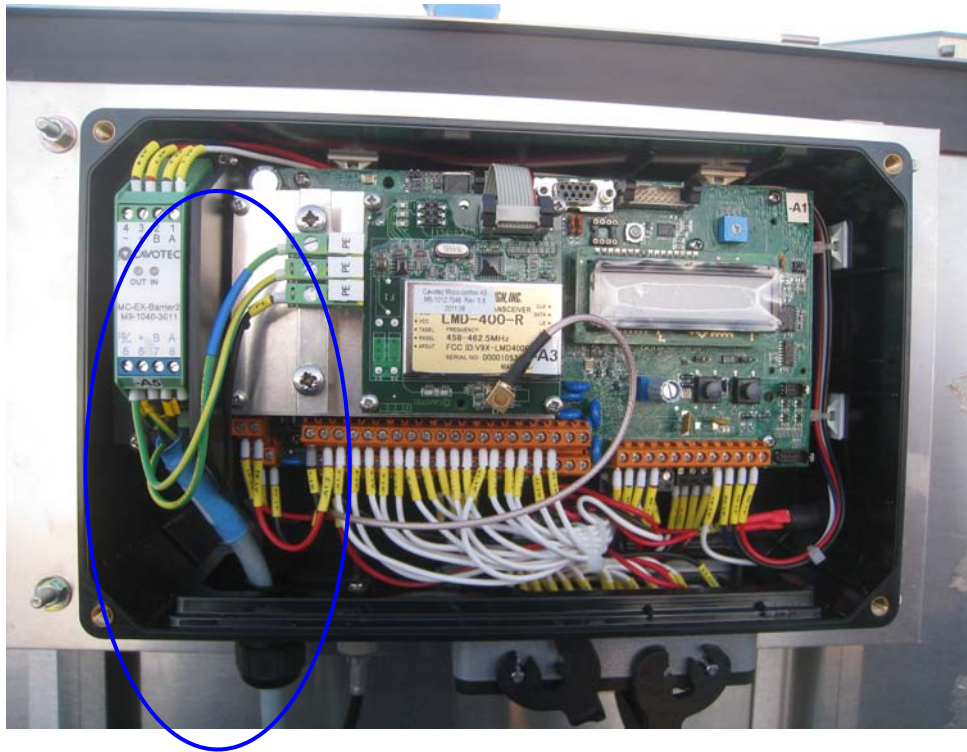


Figure 16

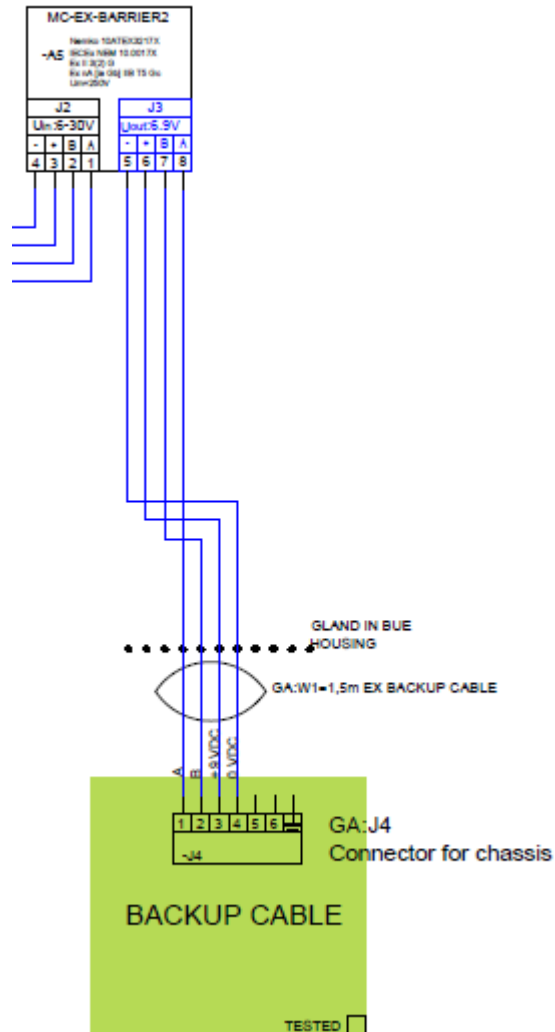


Figure 17

9. Close electrical panel cover and replace floor panel. Reconnect electrical power.

10. Ensure proper operation of the radio by checking all of the functions in wireless and wired mode.

See attached doghouse poster for a summarized set of operating instructions, maintenance procedures, spare parts, and terminal status indicators.

INFORMATION:

For a complete list of all bulletins go to www.canrig.com

For further information contact:

Canrig Drilling Technology Ltd.

8223 Willow Place South
Houston, Texas 77070
Phone: 281.774.5600
Fax: 281.774.5610

9307 52 Street SE
Calgary, AB T2C 2R4
Phone: 403.279.3466
Fax: 403.279.6888

CANRIG

DRILLING TECHNOLOGY LTD.

Radio Control Unit

CANRIG Power Catwalk Model Series 2000–5000

Cavotec® Model MC 3200 EX

Read Prior to Use

- **Do not open the terminal (see Figure 1). Doing so will void the warranty and invalidate the hazardous area classification. There are no user-serviceable internal parts.**
- Inspect the Radio Control Unit and accessories prior to operation. Check for any damage that may have occurred during shipping.
- Do not use the device if it appears to be damaged.
- Installation should only be carried out by qualified personnel.
- Do not store the terminal unit in temperatures below -22 °F (-30 °C) or above +122 °F (+50 °C).
- Avoid shock and vibrations if possible.
- Do not immerse in water. Do not pressure wash.
- Use only original batteries from Cavotec Micro-control AS.
- Ensure that the battery charger supply voltage is correct.

Spare Parts

Part Number	Description	Quantity
E14991	Terminal (hand-held). Provide existing base unit serial number. See Figure 3.	1
E14992	Base Unit. Provide existing base unit serial number. See Figure 3.	1
E14993	Battery Charger	1
E14994	Battery	1
E15039	50m Control Cable	1
E15040	Antenna	1

Maintenance

Task	Frequency
Inspect terminal and base unit for damage.	As required.
Clean terminal and base unit with damp cloth.	As required.
Do not open the terminal housing; degradation of the sealing gasket will occur.	
Report damaged rubber boots on terminal joysticks or pushbuttons to RIGLINE 24/7 immediately!	

Operating Instructions

Task	Description
Operating the Terminal	<ul style="list-style-type: none"> - Check that a fully-charged battery is in the terminal. - Pull/twist the Emergency Stop pushbutton out. - Turn the terminal ON. - Press the Start pushbutton. - After a 1 second self-test, the terminal will establish connection with the base unit (Figure 2).
Replacing the Battery	<ul style="list-style-type: none"> - Operating time for a fully-charged battery is 8 hours. - Place the catwalk in a safe, stowed position. - Turn the terminal OFF. - Remove the battery and insert a fully-charged one. - Turn the terminal ON.
Charging the Battery	<ul style="list-style-type: none"> - Battery life is 1000 charging cycles, or 2 – 3 years. - Install the battery charger in a clean and dry environment. - Connect the charger to the correct supply voltage. - Insert the battery to be charged. - Wait to see the indication that charging is normal (Red LED). - Battery will charge fully in about three hours. Battery is fully-charged when Green LED is lit. - Leave the battery in the charger until it is required for use. - Use only the battery charger supplied with the system or a replacement from Canrig. - Batteries not in constant use should be charged at least once every 2 months.

Terminal Status Indicators

Flashing Pattern	Description	Action
Steady light.	Normal condition. The terminal is turned ON, the battery voltage is okay, and no fault is detected.	None.
Slow flashing light without stop (1 flash per second).	Low battery voltage.	Replace the battery with a fully charged one.
Short flashes (2 flashes per second).	Programming mode.	Turn the terminal OFF and ON again to start normal operation.
1 flash with a long stop (1 flash every 2 seconds).	Processor fault or test mode. Indicates a processor module fault and/or a processor fault.	Contact RIGLINE 24/7.
2 flashes with a stop.	Activity at start-up. A joystick is out of center position, or a switch is in ON position.	Set all switches/joysticks to OFF position and or/neutral position.
3 flashes with a stop.	Radio fault.	Contact RIGLINE 24/7.
4 flashes with a stop.	Shutdown because of low battery voltage.	Replace the battery with a fully charged one.
5 flashes with a stop.	Keyboard fault. The terminal is not able to "read" switches, joysticks, etc.	Contact RIGLINE 24/7.
6 flashes with a stop.	Shutdown because of inactivity. The terminal will soon "turn itself OFF" since no switches, joysticks, etc. have been activated.	Turn the terminal OFF and ON again to start normal operation.
7 flashes with a stop.	Emergency stop. The E-Stop button has been pressed or the shock detector has been activated.	Ensure the stop button is out and turn the terminal OFF and ON again to start normal operation.
No light.	Terminal is OFF or battery is not installed or charged.	Ensure there is a charged battery in the terminal and that the terminal is turned ON. If the terminal has turned itself OFF because of inactivity, turn it OFF and ON again to start normal operation.



Figure 1: Terminal

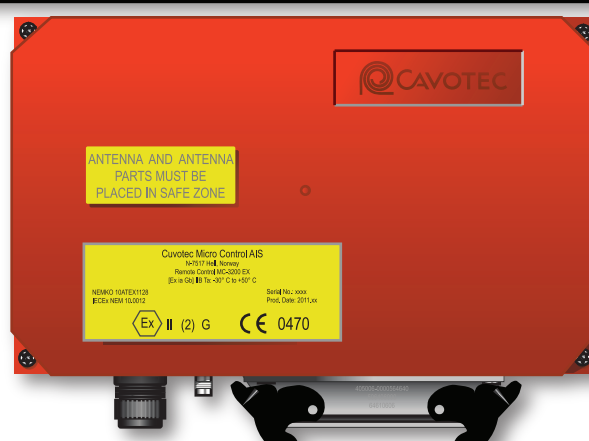


Figure 2: Base Unit



Figure 3: Base Unit (Right View)

RIGLINE 24/7

866.433.4345
(US Toll-free)

+1 281.774.5649
(International)

info@canrig.com
(e-mail)