M0096310-08 (en-us)
March 2024

Operation and Maintenance Manual

Supplemental Information

Regulatory Compliance Information

RC4 1-UP (COMMAND CONSOLE)
RCS 1-UP (COMMAND CONSOLE)

Cat® Command Operator Console

Scan to find and purchase genuine Cat® parts and related service information.

Important Safety Information

Most accidents that involve product operation, maintenance and repair are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. A person must be alert to potential hazards, including human factors that can affect safety. This person should also have the necessary training, skills and tools to perform these functions properly.

Improper operation, lubrication, maintenance or repair of this product can be dangerous and could result in injury or death.

Do not operate or perform any lubrication, maintenance or repair on this product, until you verify that you are authorized to perform this work, and have read and understood the operation, lubrication, maintenance and repair information.

Safety precautions and warnings are provided in this manual and on the product. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

The hazards are identified by the “Safety Alert Symbol” and followed by a “Signal Word” such as “DANGER”, “WARNING” or “CAUTION”. The Safety Alert “WARNING” label is shown below.

The meaning of this safety alert symbol is as follows:

Attention! Become Alert! Your Safety is Involved.

The message that appears under the warning explains the hazard and can be either written or pictorially presented.

A non-exhaustive list of operations that may cause product damage are identified by “NOTICE” labels on the product and in this publication.

Caterpillar cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this publication and on the product are, therefore, not all inclusive. You must not use this product in any manner different from that considered by this manual without first satisfying yourself that you have considered all safety rules and precautions applicable to the operation of the product in the location of use, including site-specific rules and precautions applicable to the worksite. If a tool, procedure, work method or operating technique that is not specifically recommended by Caterpillar is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that you are authorized to perform this work, and that the product will not be damaged or become unsafe by the operation, lubrication, maintenance or repair procedures that you intend to use.

The information, specifications, and illustrations in this publication are on the basis of information that was available at the time that the publication was written. The specifications, torques, pressures, measurements, adjustments, illustrations, and other items can change at any time. These changes can affect the service that is given to the product. Obtain the complete and most current information before you start any job. Cat dealers have the most current information available.

NOTICE

When replacement parts are required for this product Caterpillar recommends using original Caterpillar® replacement parts.

Other parts may not meet certain original equipment specifications.

When replacement parts are installed, the machine owner/user should ensure that the machine remains in compliance with all applicable requirements.

In the United States, the maintenance, replacement, or repair of the emission control devices and systems may be performed by any repair establishment or individual of the owner's choosing.

Table of Contents

Foreword

Literature Information

This manual should be stored in the operator's compartment in the literature holder or seat back literature storage area.

This manual contains safety information, operation instructions, and maintenance recommendations.

Some photographs or illustrations in this publication show details or attachments that can be different from your product.

Continuing improvement and advancement of product design might have caused changes to your product which are not included in this publication. Read, study and keep this manual with the product.

Whenever a question arises regarding your product, or this publication, please consult your Cat dealer for the latest available information.

Safety

The safety section lists basic safety precautions. In addition, this section identifies the text and locations of warning signs and labels used on the machine.

Operation

The operation section is a reference for the new operator and a refresher for the experienced operator. This section includes a discussion of gauges, switches, product controls, attachment controls, and programming information.

Photographs and illustrations guide the operator through correct procedures of checking, starting, operating and stopping the product.

Operating techniques outlined in this publication are basic. Skill and techniques develop as the operator gains knowledge of the product and its capabilities.

Maintenance

The maintenance section is a guide to equipment care.

Operation Section

Operation

i10123346

General Information

SMCS Code: 4490; 7000; 7008; 7490; 7602; 7606; 7620; 7631

This regulatory information supplement contains additional regulatory information for certain markets, and/or specific components, that should be used in conjunction with the product specific Operation and Maintenance Manual that was supplied with the product.

This regulatory information supplement is applicable to the family of products listed on the cover.

Your specific product may not be equipped with all of the components that are described in this regulatory information supplement.

For questions regarding your specific product, or this publication, please consult your Cat dealer for the latest available information.

The following table gives an understanding between sales model and certification model.

The command console has the following Cat sales models, as shown in Table 1 with the product certification.

Table 1

Cat Sales Model: Command Console	
Cat Model	**HBC-radiomatic GmbH Product Certification**
R4:C1–2400	Transmitter spectrum E
R4:C1–900	Transmitter spectrum E

The operator console has the following Cat sales models, as shown in Table 2 with the product certification.

Table 2

Cat Sales Model: Operator Console	
Cat Model	**HBC-radiomatic GmbH Product Certification**
R3:C1–2400	Transmitter spectrum E
R3:C1–900	Transmitter spectrum E
R4:C1–2400	Transmitter spectrum E
R4:C1–900	Transmitter spectrum E
R4:C3	Transmitter spectrum E

The receiver has the following Cat sales models, as shown in Table 3 with the product certification.

Table 3

Cat Sales Model: Receiver	
Cat Model	**HBC-radiomatic GmbH Product Certification**
R3:R1-2400	FSE503
R3:R1-900	FSE503
R4:R1-2400	FSE503
R4:R1-900	FSE503
R4:R3-2400	FSE503
R4:R3-900	FSE503

Welcome to Command

The Cat ® Command operator console is a device that allows you to operate your equipment from up to 400 m (1312.3 ft) away. These simple instructions provide you with a few simple steps to follow to quickly locate the Operation and Maintenance Manual while providing a general overview of Command operator console. This Kit may be used for various certain machines that are Command compatible.

Installation

This kit includes a 900 MHz or 2.4 GHz operator console and receiver set, along with the antenna, batteries, chargers, operator access card, shoulder hook, and carrying strap. After the machine Command kit has been installed, this kit will give the functionality to operate the machine with the operator console. From this kit, the receiver and antenna must be installed on the machine. Prior to first use, the batteries must be charged. For specific installation instructions refer to SIS web by searching for a Special Instruction under the machine serial number prefix.

Reference Section

Locating the Operation and Maintenance Manual (OMM)

Downloads of the Remote Control (RC) operator console Operation and Maintenance Manual (OMM) are currently available for no cost at:

https://catpublications.com

When at the website, use the machine serial number prefix to locate the proper OMM. The machine serial number contains eight digits, the machine serial number prefix is the first 3 digits. Using the prefix RC4 and RCS may help locate all of the manuals quickly. Additionally, using the following filters will help this process:

- Operation and Maintenance
- Technology
- Command

To obtain the Operation and Maintenance Manual (OMM) related to the machine at no cost, use the promotional codes associated to following media numbers:

- SEBU8835 and M0069794 : COMMANDDOZINGOC1
- M0084307: COMMANDLOADINGOC1
- M0079764: COMMANDEXCAVATIONOC1
- M0096351: COMMANDUNDERGROUNDOC1

For mobile equipment or equipment that is located in areas where direct internet access is not available while the product is in use, a paper copy of the OMM must be printed and kept with the product. A paper copy of the manual may be sourced at the link above or through the local Cat Dealer. If the OMM is not found properly at the link posted above, a Dealer Service Network (DSN) ticket should be placed with Cat to correct the problem.

Finding Information on SIS Web

Command Information such as OMM, Special Instructions, and SOTA can be found by using the serial number prefix associated with the machine. Command Information can also be found on SIS web by using the prefix RC4 and RCS for the operator console.

Additional Information on Dealer.cat.com

For additional information on software, releases, warranty, and other useful information relating to Command follow the website link below:

For mining equipment

https://dealer.cat.com/en/products/technology/mining-technologyautonomy/command.html

For construction equipment

https://dealer.cat.com/en/products/technology/construction-technology/command.html

Notes and Cautions

Receiver and Chip Pair

This Kit contains a receiver and chip that has been specially paired. This pair cannot be rewritten or modified to allow use of another device. This pairing allows one console to operate one remote control machine while not interfering with another existing Command machine.

Link a Console to the Receiver

The console can only be used to control one machine at a time however the console can be used to control other remote control machines by linking the console to a new receiver. Linking a receiver to a console is simple as:

1. Locate the console, receiver, and Radio Frequency Identification (RFID) receiver chip.
2. Insert the RFID receiver chip into the console.
3. Power up the console (In accordance with the OMM).

Link the Console to Another Machine

To link the console to another machine:

1. Locate the console, and RFID receiver chip from the other Command machine.
2. Remove existing RFID receiver chip.
3. Insert RFID receiver chip from the other Command machine.
4. Power up the console (In accordance with the OMM).

Remote Control Indicator Information

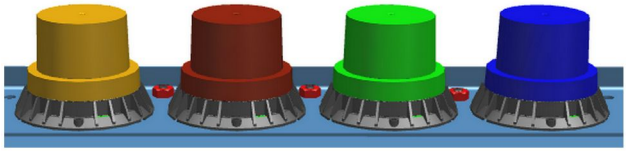

Illustration 1 g07751337

Remote control indicators

The indicators are installed as part of the machine group. The lamps come in various shapes and sizes are used to show the active status of the machine. The indicators are extremely important when observing the machine. Various machines use a combination of yellow, red, green, and blue. Prior to operating the machine, thoroughly read the OMM and understand the purpose of the indicators. The various indicators signal modes such as: remote control operation, manual operation, stopping, starting, and avoidance zones.

Specifications

Features

- Indicators and diagnostics Liquid Crystal Display (LCD) screen, battery, remote active Light Emitting Diode (LED), software, and commanded stop LED status indicators
- Console links to machine receiver via RFID chip that contains the receivers unique ID code, which is factory programmed
- CRC-16 error detection
- Input Power 3.7 V DC Li-Ion rechargeable battery
- Battery life up to 18 hours
- Weight (with battery) Approx. 3.6 kg (8.00 lb)
- Construction: high impact, low temperature plastic
- Weatherproof IP 65
- Internal antenna (operator console)

R4:C1 Specifications

Table 4

Frequency Range	2.402 - 2.480 GHz	903.05 - 926.975 MHz
Frequency Management	Frequency Hopping Spread Spectrum	Frequency Hopping Spread Spectrum
Radio Power	100 mW	63 mW
Max. Operating range	400 m (1312 ft)	400 m (1312 ft)
IP Rating	65	
Weight	4 kg (8.8 lb)	
Operating temperature	−20° C (−4° F) to 60° C (140° F)	
Storage temperature	−15° C (5° F) to 35° C (95° F) (Li-Ion battery limitation)	

R4:C1 Battery and Charging

Table 5

Supply Voltage	3.7 V
Battery Capacity	9.0 Ah
Continuous Operating Time	18 Hours
Charging Time	4 Hours or less
Allowed Ambient Charging Temperature	0° C (32° F) to 45° C (113° F)
Average Charging Capacity	500 Cycles
Battery Storage	−15° C (5° F) to 35° C (95° F)
AC Charging Voltage	100 - 240 V (50 - 60 Hz) 1 A max
DC Charging Voltage	10 - 30 V / 3 Amp

R4:R1

Table 6

Frequency Range	2.402 - 2.480 GHz	903.05 - 926.975 MHz
Frequency Management	Frequency Hopping Spread Spectrum	Frequency Hopping Spread Spectrum
Radio Power	100 mW	16 mW
Max. Operating range	400 m (1312 ft)	400 m (1312 ft)
IP Rating	66	
Operating temperature	−40° C (−40° F) to 85° C (185° F)	
Storage temperature	−50° C (−58° F) to 85° C (185° F)	
Input Voltage	9 V to 32 V / 1 Amp	

R3:C1 Specifications

Table 7

Frequency Range	2.402 - 2.480 GHz	902.025 - 917.975 MHz
Frequency Management	Frequency Hopping Spread Spectrum	Automatic Frequency Selection (AFS)
Radio Power	100 mW	16 mW
Max. Operating range	400 m (1312 ft)	400 m (1312 ft)
IP Rating	65	
Weight	4 kg (8.8 lb)	
Operating temperature	−20° C (−4° F) to 60° C (140° F)	
Storage temperature	−20° C (−4° F) to 45° C (113° F) (Li-Ion battery limitation)	

R3:C1 Battery and Charging

Table 8

Supply Voltage	3.7 V
Battery Capacity	10.56 Ah
Continuous Operating Time	18 Hours
Charging Time	4 Hours or less
Allowed Ambient Charging Temperature	0° C (32° F) to 45° C (113° F)
Average Charging Capacity	500 Cycles
Battery Storage	−15° C (5° F) to 35° C (95° F)
AC Charging Voltage	100 - 240 V
DC Charging Voltage	10 - 30 V / 3 Amp

R3:R1

Table 9

Frequency Range	2.402 - 2.480 GHz	902.025 - 917.975 MHz
Frequency Management	Frequency Hopping Spread Spectrum	Automatic Frequency Selection (AFS)
Radio Power	100 mW	16 mW
Max. Operating range	400 m (1312 ft)	400 m (1312 ft)
IP Rating	68	
Operating temperature	−40° C (−40° F) to 85° C (185° F)	
Storage temperature	−50° C (−58° F) to 85° C (185° F)	
Input Voltage	9 V to 32 V / 1 Amp	

Automatic Frequency Selection (AFS)

Using 900 MHz, Automatic Frequency Selection (AFS) will check if the present radio channel is free. If the radio channel is occupied, the system automatically finds and saves a free radio channel. If the radio channel currently in use is occupied by another radio control system, you must switch the transmitter off and on again to allow AFS to switch to a free radio channel. If AFS is to perform optimally, all the other radio systems in the immediate working environment (such as the factory hall or building site) should be switched on before starting to use the radio system for the first time. Switching all the other radio systems ON before using the system allows AFS to detect automatically which radio channels are already being used in the working area and to choose a suitable free channel for use. In addition, when switching on the radio system for the first time, the user should make sure that the distance from the radio receiver and from the machine is a realistic reflection of the working situation.

Frequency Hopping Spread Spectrum

The 900 MHz and 2.4 GHz technology works with automatic frequency coordination and thus ensures interruption -free working in areas with many radio users. Manual frequency coordination is not necessary. With the worldwide frequency band, 2.4 GHz technology can be used all over the world.

Regulatory Compliance Information

Radio Frequency Components

i09948673

Wireless Device
(R4:C2 - If Equipped)

SMCS Code: 7008; 7600-ZM

Specifications

The following communication device specifications are provided to aid in conducting any related hazard assessment and to ensure compliance with all local regulations:

Table 10

Model	Frequency Band	Frequency Range	Transmitter Power
R4:C2	2.4 GHz	2.402 - 2.480 GHz	100 mW

Certification Notices

FCC Notice

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 interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

Changes or modifications to the unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/tv technician for help

Changes or modifications to this device without the express approval may void the users' authority to use this device.

Canada Notice to Users

License exempt

This device complies with Industry Canada’s license-exempt RSSs. Operation is subject to the following two conditions:

- This device may not cause interference; and
- This device must accept any interference, including interference that may cause undesired operation of the device.

Certification Markings

Australia – 2.4 GHz models approved for Australia. Certification number: 02944–16–04835. AS-NZS 4268

Chile – 2.4 GHz models approved for Chile.

Columbia – 2.4 GHz models approved for Columbia. Exempt Status Via Resolution Number 000797

Japan – 2.4 GHz models approved for Japan. Console and Receiver Approval for RF Module TC241.

New Zealand – 2.4 GHz models approved for New Zealand. Complies with the following standards: AS-NZS 4268. R-NZ

Peru – 2.4 GHz models approved for Peru. Console and Receiver Certification number: 1500075 – N09TC241

United States – Certification number: N09TC792-1. 2.4GHz Certification number: N09TC241B.

i10061887

Wireless Device
(R4:C1 - If Equipped)

SMCS Code: 7008; 7600-ZM

sDoC

(Simplified Declaration of Conformity)

European Union

Caterpillar Inc. 100 NE Adams Peoria, IL 61629 USA

Hereby,Caterpillar Inc. declares this radio equipment is in compliance with directive “2014/53/EU” . The full text of the European Declaration of Conformity is available at the following web address:

https://www.cat.com/radio-compliance

Caterpillar suggests that the Declaration of Conformity is obtained shortly after purchase.

Great Britain

Caterpillar Inc. 100 NE Adams Peoria, IL 61629 USA

Hereby,Caterpillar Inc. declares this radio equipment is in compliance with the relevant statutory requirements. The full text of the Great Britain Declaration of Conformity is available at the following web address:

https://www.cat.com/radio-compliance

Caterpillar suggests that the Declaration of Conformity is obtained shortly after purchase.

Specifications

The following communication device specifications are provided to aid in conducting any related hazard assessment and to ensure compliance with all local regulations:

Table 11

Console Specifications		
Model	**R4:C1**	
Frequency Range	2.402 GHz - 2.480 GHz	902.025 MHz - 917.975 MHz
Frequency Management	Frequency Hopping	Fixed Frequency
Transmitter Power	100 mW	63 mW
Max. Operating Range	400 m (1312 ft)	400 m (1312 ft)
IP Rating	65	
Weight	4 kg (8.8 lb)	
Operating Temperature	−20 °C (−4 °F) to 60 °C (140 °F)	
Storage Temperature	−20 °C (−4 °F) to 45 °F (113 °F)	

Using 900MHz, Automatic Frequency Selection (AFS) will check if the present radio channel is free. If the radio channel is occupied, the system automatically finds and saves a free radio channel. If the radio channel currently in use is occupied by another radio control system, you must switch the transmitter off and on again to allow AFS to switch to a free radio channel. If AFS is to perform optimally, all the other radio systems in the immediate working environment (such as the factory hall or building site) should be switched on before starting to use the radio system for the first time. Switching all the other radio systems ON before using the system allows AFS to detect automatically which radio channels are already being used in the working area and to choose a suitable free channel for use. In addition, when switching on the radio system for the first time, the user should make sure that the distance from the radio receiver and from the machine is a realistic reflection of the working situation.

2.4 GHz technology works with automatic frequency coordination and thus ensures interruption-free working in areas with many radio users. Manual frequency coordination is not necessary.

Table 12

Battery and Charging Specifications	
Supply Voltage	3.7V
Battery Capacity	9.0 Ah
Continuous Operating Time	18 Hours
Charging Time	4 Hours or less
Ambient Charging Temperature	0 °C (32 °F) to 45 °C (113 °F)

(continued)

(Table 12, contd)

Battery and Charging Specifications	
Avg. Charging Capacity	500 Cycles
Battery Storage	−15 °C (5 °F)
AC Charging Voltage	100V - 240V (50-60Hz) / 1 Amp (max)
DC Charging Voltage	10V - 30V / 3 Amp

Certification Notices

FCC Notice

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 interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/tv technician for help

Changes or modifications to this device without the express approval may void the users' authority to use this device.

Canada Notice

The 900MHz and 2.4GHz models are approved for use in Canada.

900MHz Console and Receiver

This device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions

- This device may not cause interference
- This device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter, IC:2977A-TC242, has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device. This device has been designed to operate with the antenna(s) listed below, and having a maximum gain of -0.22$_{dB}$. Antennas not included in this list or having a gain greater than -0.22$_{dB}$ are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

This component must be used with the following antenna : P/N 290 - 2770 with a maximum gain of -0.22$_{dB}$ and require 50 ohms of impedance.

2.4GHz Console and Receiver

This device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause interference
- This device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter, IC:2977A-TC242, has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device. This device has been designed to operate with the antenna(s) listed below, and having a maximum gain of 2.14$_{dB}$. Antennas not included in this list or having a gain greater than 2.14$_{dB}$ are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

This component must be used with the following antenna : P/N 363 - 9099 with a maximum gain of 2.14$_{dB}$ and require 50 ohms of impedance.

Certification Markings

Australia – 2.4 GHz models approved for Australia. Certification number: 02944–16–04835. AS-NZS 4268

Brazil – 2.4 GHz models approved for use in Brazil. Console and Receiver Certification Number: UL-BR 16.0797

Chile – 2.4 GHz models approved for Chile.

Japan – 2.4 GHz models approved for Japan. Console and Receiver Approval for RF Module TC242.

New Zealand – 2.4GHz models approved for New Zealand. Complies with the following standards: AS-NZS 4268. R-NZ

United States – The 900 MHz and 2.4 GHz models approved for United States. 900 MHz. Certification number: N09TC792-1. 2.4GHz Certification number: N09TC242.

i10061893

Wireless Device
(R3:R1 - If Equipped)

SMCS Code: 7008; 7600-ZM

sDoC

(Simplified Declaration of Conformity)

European Union

Caterpillar Inc. 100 NE Adams Peoria, IL 61629 USA

Hereby,Caterpillar Inc. declares this radio equipment is in compliance with directive “2014/53/EU” . The full text of the European Declaration of Conformity is available at the following web address:

https://www.cat.com/radio-compliance

Caterpillar suggests that the Declaration of Conformity is obtained shortly after purchase.

Great Britain

Caterpillar Inc. 100 NE Adams Peoria, IL 61629 USA

Hereby,Caterpillar Inc. declares this radio equipment is in compliance with the relevant statutory requirements. The full text of the Great Britain Declaration of Conformity is available at the following web address:

https://www.cat.com/radio-compliance

Caterpillar suggests that the Declaration of Conformity is obtained shortly after purchase.

Specifications

The following communication device specifications are provided to aid in conducting any related hazard assessment and to ensure compliance with all local regulations:

Table 13

Receiver Specifications		
Model	R3::R1	
Frequency Band	900 MHz	2.4 GHz
Frequency Range	902.025 MHz - 917.975 MHz	2.402 GHz – 2.480 GHz
Frequency Management	Automatic Frequency Selection (AFS)	Frequency Hopping Spread Spectrum
Transmitter Power	63 mW	100 mW

Certification Notices

FCC Notice

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 interference that may cause undesired operation.

Changes or modifications to the unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna

- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/tv technician for help

Changes or modifications to this device without the express approval may void the users authority to use this device.

Canada Notice

The 900MHz and 2.4GHz models are approved for use in Canada.

900MHz Console and Receiver – 2977A-TC693

1. This device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions

- This device may not cause interference
- This device must accept any interference, including interference that may cause undesired operation of the device.

2. This radio transmitter, IC:2977A-TC693, has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device. This device has been designed to operate with the antenna(s) listed below with the maximum permissible gain indicated. Antennas not included in this list or having a gain greater than -0.22$_{dB}$ are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

3. This component must be used with the following antenna : P/N 290 - 2770 with a maximum gain of -0.22$_{dB}$ and require 50 ohms of impedance.

2.4GHz Console and Receiver – 2977A-TC242

1. This device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause interference
- This device must accept any interference, including interference that may cause undesired operation of the device.

2. This radio transmitter, IC:2977A-TC241, has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device. This device has been designed to operate with the antenna(s) listed below, and having a maximum gain of 2.14$_{dB}$. Antennas not included in this list or having a gain greater than 2.14$_{dB}$ are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

3. This component must be used with the following antenna : P/N 363 - 9099 with a maximum gain of 2.14$_{dB}$ and require 50 ohms of impedance.

Certification and Markings

Australia – 2.4 GHz models approved for Australia. Certification number: 02944-16-04835. AS-NZS 4268

Chile – 2.4 GHz models approved for Chile.

Democratic Republic of Congo – 2.4 GHz models approved for Democratic Republic of Congo. Console Certification number: HER-0038/2016. 2.4 GHz Receiver Certification number: HER-0039/2016

Japan – 2.4 GHz models approved for Japan. Console and Receiver Approval for RF Module TC241

Peru – This device is approved for use in Peru. Console and Receiver Certificate Number 1500075-N09TC241

Nambia – 2.4 GHz models approved for use in Nambia.

New Zealand – 2.4 GHz models approved for New Zealand. Complies with the following standards: AS-NZS 4268. R-NZ

South Africa – 2.4 GHz models approved for South Africa

Ukraine – 2.4GHz models approved for Ukraine. Console and Receiver Certification number: UA.TR.052.208-14

United States – 900 MHz and 2.4 GHz models approved for United States. 900 MHz Certification number: N09TC792-1. 2.4GHz Certification number: N09TC241B.

i10061899

Wireless Device
(R3:C1 - If Equipped)

SMCS Code: 7008; 7600-ZM

sDoC

(Simplified Declaration of Conformity)

European Union

Caterpillar Inc. 100 NE Adams Peoria, IL 61629 USA

Hereby,Caterpillar Inc. declares this radio equipment is in compliance with directive “2014/53/EU” . The full text of the European Declaration of Conformity is available at the following web address:

https://www.cat.com/radio-compliance

Caterpillar suggests that the Declaration of Conformity is obtained shortly after purchase.

Great Britain

Caterpillar Inc. 100 NE Adams Peoria, IL 61629 USA

Hereby,Caterpillar Inc. declares this radio equipment is in compliance with the relevant statutory requirements. The full text of the Great Britain Declaration of Conformity is available at the following web address:

https://www.cat.com/radio-compliance

Caterpillar suggests that the Declaration of Conformity is obtained shortly after purchase.

Specifications

The following communication device specifications are provided to aid in conducting any related hazard assessment and to ensure compliance with all local regulations:

Table 14

Console Specifications		
Model	**R3:C1**	
Frequency Range	2.402 GHz - 2.480 GHz	902.025 MHz - 917.975 MHz
Frequency Management	Frequency Hopping	Fixed Frequency
Transmitter Power	100 mW	16 mW
Max. Operating Range	400 m (1312 ft)	400 m (1312 ft)
IP Rating	65	
Weight	4 kg (8.8 lb)	
Operating Temperature	−20 °C (−4 °F) to 60 °C (140 °F)	
Storage Temperature	−20 °C (−4 °F) to 45 °F (113 °F)	

Using 900MHz, Automatic Frequency Selection (AFS) will check if the present radio channel is free. If the radio channel is occupied, the system automatically finds and saves a free radio channel. If the radio channel currently in use is occupied by another radio control system, you must switch the transmitter off and on again to allow AFS to switch to a free radio channel. If AFS is to perform optimally, all the other radio systems in the immediate working environment (such as the factory hall or building site) should be switched on before starting to use the radio system for the first time. Switching all the other radio systems ON before using the system allows AFS to detect automatically which radio channels are already being used in the working area and to choose a suitable free channel for use. In addition, when switching on the radio system for the first time, the user should make sure that the distance from the radio receiver and from the machine is a realistic reflection of the working situation.

2.4 GHz technology works with automatic frequency coordination and thus ensures interruption-free working in areas with many radio users. Manual frequency coordination is not necessary.

Table 15

Battery and Charging Specifications	
Supply Voltage	3.7V
Battery Capacity	10.56Ah
Continuous Operating Time	18 Hours
Charging Time	4 Hours or less
Ambient Charging Temperature	0 °C (32 °F) to 45 °C (113 °F)

(continued)

(Table 15, contd)

Battery and Charging Specifications	
Avg. Charging Capacity	500 Cycles
Battery Storage	−15 °C (5 °F) to 35 °C (95 °F)
AC Charging Voltage	100 - 240V
DC Charging Voltage	10 - 30V

Certification Notices

FCC Notice

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 interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/tv technician for help

Changes or modifications to this device without the express approval may void the users authority to use this device.

Canada Notice

The 900MHz and 2.4GHz models are approved for use in Canada.

900MHz Console and Receiver (2977A-TC693)

This device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions

- This device may not cause interference
- This device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter, IC:2977A-TC693, has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device. This device has been designed to operate with the antenna(s) listed below, and having a maximum gain of -0.22_{dB}. Antennas not included in this list or having a gain greater than -0.22_{dB} are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

This component must be used with the following antenna : P/N 290 - 2770 with a maximum gain of -0.22_{dB} and require 50 ohms of impedance.

2.4GHz Console and Receiver (2977A-TC241)

This device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause interference
- This device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter, IC:2977A-TC241, has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device. This device has been designed to operate with the antenna(s) listed below, and having a maximum gain of 2.14_{dB}. Antennas not included in this list or having a gain greater than 2.14_{dB} are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

This component must be used with the following antenna : P/N 363 - 9099 with a maximum gain of 2.14_{dB} and require 50 ohms of impedance.

Certification and Markings

Australia – 2.4 GHz models approved for Australia. Certification number: 02944–16–04835. AS-NZS 4268

Chile – 2.4 GHz models approved for Chile.

Columbia – 2.4 GHz models approved for Columbia. Exempt Status Via Resolution Number 000797

Democratic Republic of Congo – 2.4 GHz models approved for Democratic Republic of Congo. Console Certification number: HER-0038/2016. 2.4 GHz Receiver Certification number: HER-0039/2016

Japan – 2.4 GHz models approved for Japan. Console and Receiver Approval for RF Module TC241.

Nambia – 2.4 GHz models approved for use in Nambia.

New Zealand – 2.4GHz models approved for New Zealand. Complies with the following standards: AS-NZS 4268. R-NZ

Peru – 2.4 GHz models approved for Peru. Console and Receiver Certification number: 1500075 – N09TC241

South Africa – 2.4 GHz models approved for South Africa

Ukraine – 2.4 GHz models approved for use in Ukraine. Console and Receiver Certification number: UA.TR.052.208-14

United States – The 900 MHz and 2.4 GHz models approved for United States. 900 MHz. Certification number: N09TC792-1. 2.4GHz Certification number: N09TC241B.

Index

Product and Dealer Information

Note: For product identification plate locations, see the section “Product Identification Information” in the Operation and Maintenance Manual.

Delivery Date: _____

Product Information

Model: _____

Product Identification Number: _____

Engine Serial Number: _____

Transmission Serial Number: _____

Generator Serial Number: _____

Attachment Serial Numbers: _____

Attachment Information: _____

Customer Equipment Number: _____

Dealer Equipment Number: _____

Dealer Information

Name: _____ Branch: _____

Address: _____

_____

_____

	Dealer Contact	Phone Number	Hours
Sales:	_____	_____	_____
Parts:	_____	_____	_____
Service:	_____	_____	_____