

CAT[®] Underground Mining

Command for Underground Control Gp-Com 366-7696 (WLg-ABOARD/N/CAT) User Guide (English)



Change History

Date Edited By Version

27 February 2014	Nathan Williams	Draft 1.0
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Safety Warnings

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.”

This telecommunication equipment conforms to NTC technical requirement.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) L'appareil ne doit pas produire de brouillage, et (2) L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



Onboard Radio – Configure



Warning

Remote controlled machines operate in this area. Personal injury or death could result from entry to this area. Do not enter this area when the Area Isolation System red warning light is flashing.

- 1) Insert the battery disconnect switch key and move to the “ON” position.
- 2) Move the autonomous control switch to the “ON” position.
- 3) Move the autonomous control enable switch to the “AUTO” position. The machine is now in the autonomous mode with the onboard radio powered “ON”.

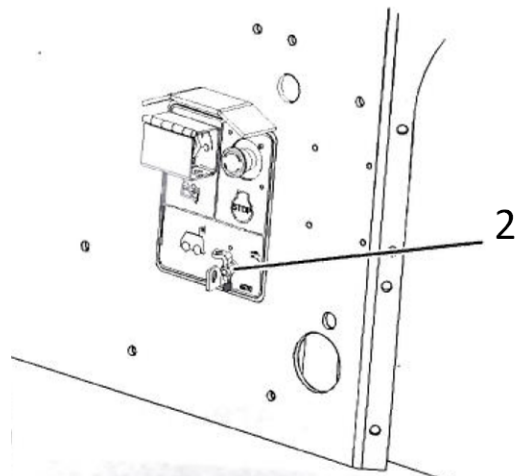
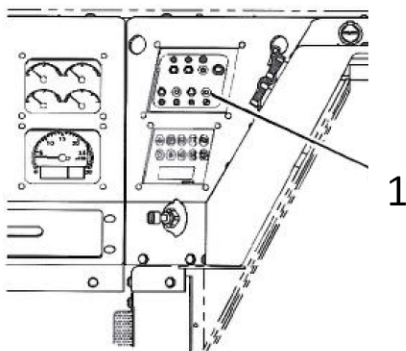


Illustration 1

- (1) Autonomous Control Switch in machine cabin
- (2) Autonomous Control Enable Switch in “Auto” Position

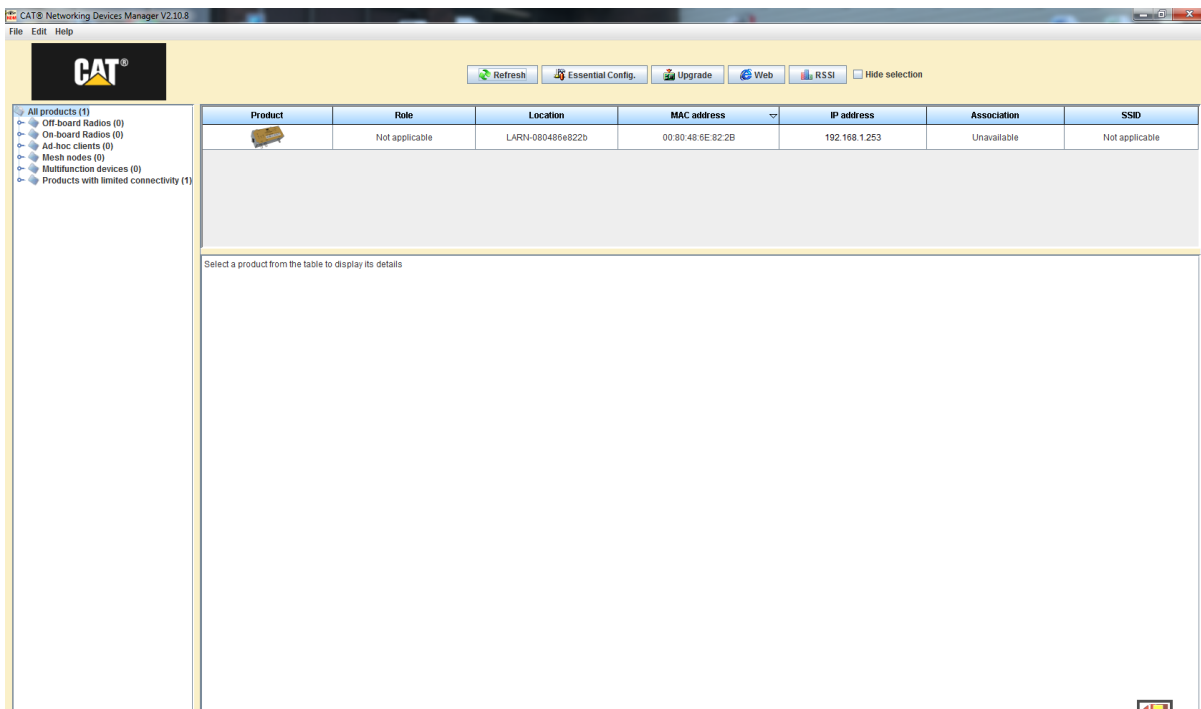


Set the radio to Onboard.

- 1) Using a 2 meter RJ45 to M12 cable (363-3406) connect the remote laptop Ethernet port to the Automation Interface Control Module (AICM) Ethernet M12 connector.



- 2) Open the CAT Network Devices Manager (NDM)




3) Select the radio by single clicking in any column describing the product.



Do not double click as this will direct you to the radios configuration pages which is not accessible when the radio has the status of a “Product with limited connectivity”.

The screenshot shows the CAT8 Networking Devices Manager V2.10.8 interface. On the left is a navigation tree with categories like 'All products (1)', 'Off-board Radios (0)', 'On-board Radios (0)', 'Ad-hoc clients (0)', 'Mesh nodes (0)', 'Multifunction devices (0)', and 'Products with limited connectivity (1)'. The main area displays a table with columns: Product, Role, Location, MAC address, IP address, Association, and SSID. A single product is listed with a yellow warning icon in the Product column. Below the table, a detailed view for the selected product is shown, including its LARN, MAC address, firmware version, and IP address. A smaller table below this view shows radio configuration details.

Product	Role	Location	MAC address	IP address	Association	SSID
	Not applicable	LARN-080486e822b	00:80:48:8E:82:2B	192.168.1.253	Unavailable	Not applicable

LARN-080486e822b is a 366-7696, MAC address: 00:80:48:8E:82:2B, firmware version 5.40.3, firmware id "E2080.CA.1"
IP address: 192.168.1.253

Radio	Channel	SSID	Role	Security	Association
#0	null/Unavailable	null		Unavailable	



4) Single click the "Essential Config." menu

The screenshot shows the CATS Networking Devices Manager V2.10.8 interface. The main window displays a table of devices with columns for Product, Role, Location, MAC address, IP address, Association, and SSID. A single device is listed with the following details:

Product	Role	Location	MAC address	IP address	Association	SSID
	Not applicable	LARN-080486e822b	00:80:48:6E:82:2B	192.168.1.253	Unavailable	Not applicable

Below the table, the selected device's details are shown: "LARN-080486e822b" is a 366-7696, MAC address 00:80:48:6E:82:2B, firmware version 5.40.3, firmware id "E2080.CA.1". The IP address is 192.168.1.253.

The "Essential Config." dialog box is open, showing the following configuration options:

- Obtain an IP address automatically
- IP address: 192.168.1.253
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.1.1
- Role: OFF-BOARD
- Location: LARN-080486e822b
- Password (Optional):
- Apply Changes
- Status:
- Identification
- Time out (min): 10
- Start
- Cancel

At the bottom of the dialog box, there is a note: "IP addresses can be obtained automatically using DHCP or specified explicitly. Using DHCP is preferred if it is available. If the IP address in the device list is 0.0.0.0 then a DHCP server is not available."



5) Select "ON-BOARD" from the "Role" drop down menu

The screenshot shows the CATS Networking Devices Manager V2.10.8 interface. A table lists device details, and an 'Essential Config' dialog box is open, showing configuration options for a selected device.

Product	Role	Location	MAC address	IP address	Association	SSID
	Not applicable	LARN-080486E822b	00:80:48:6E:82:2B	192.168.1.253	Unavailable	Not applicable

Below the table, the following information is displayed:

"LARN-080486E822b" is a 366-7696, MAC address 00:80:48:6E:82:2B, firmware version 5.40.3, firmware id "E2080.CA.1"

IP address: 192.168.1.253

Radio	Channel	SSID	Role	Security	Association
#0	null/Unavailable	null	Unavailable	Unavailable	

The 'Essential Config' dialog box shows the following configuration:

- Obtain an IP address automatically
- IP address: 192.168.1.253
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.1.1
- Location: ON-BOARD
- Role: ON-BOARD (selected in dropdown)
- Association: ON-BOARD
- Password (Optional):
- Apply Changes
- Status:
- Identification
- Time out (min): 10
- Start
- Cancel

IP addresses can be obtained automatically using DHCP or specified explicitly. Using DHCP is preferred if it is available.

If the IP address in the device list is 0.0.0.0 then a DHCP server is not available.



- 6) Select "Apply Changes". The "Status" bar will give an indication when the configuration changes have been successfully completed.



Do not close the essential config window until the configuration changes have been successfully completed as this will cause a cancelation of the desired changes.

The screenshot shows the CATS Networking Devices Manager V2.10.8 interface. A table lists network devices with columns for Product, Role, Location, MAC address, IP address, Association, and SSID. One device is listed with MAC address 00:80:48:6E:82:2B and IP address 192.168.1.253. An "Essential Config." dialog box is open, showing configuration options for the selected device. The dialog includes fields for IP address (192.168.1.253), Subnet mask (255.255.255.0), and Default gateway (192.168.1.1). It also has dropdown menus for Role (ON-BOARD) and Location (OR-SBR 632). A "Status" bar is visible at the bottom of the dialog. Below the dialog, a small table shows details for the selected radio:

Radio	Channel	SSID	Role	Security	Association
#0	null/Unavailable	null		Unavailable	



The screenshot shows the CATS Networking Devices Manager V2.10.8 interface. The main window displays a table of network devices. The selected device is a radio with the following details:

Product	Role	Location	MAC address	IP address	Association	SSID
	Not applicable	LARN-080486E822B	00:80:48:0E:82:2B	192.168.1.253	Unavailable	Not applicable

Below the table, the device details are shown: "LARN-080486E822B" is a 366-7696, MAC address 00:80:48:0E:82:2B, firmware version 5.40.3, firmware id "E2080.CA.1". The IP address is 192.168.1.253.

The "Essential Config." dialog box is open, showing the configuration for the selected device. The "Obtain an IP address automatically" checkbox is checked. The IP address is 192.168.1.253, Subnet mask is 255.255.255.0, and Default gateway is 192.168.1.1. The Role is ON-BOARD and Location is OR-SBR 932. The Status is "Configuring...".

The screenshot shows the CATS Networking Devices Manager V2.10.8 interface. The main window displays a table of network devices. The selected device is a radio with the following details:

Product	Role	Location	MAC address	IP address	Association	SSID
	ON-BOARD	OR-SBR 932	00:80:48:0E:82:2B	0.0.0.0	RSSI 0 dBm	Not applicable

Below the table, the text "Select a product from the table to display its details" is displayed.

The "Essential Config." dialog box is open, showing the configuration for the selected device. The "Obtain an IP address automatically" checkbox is checked. The IP address is 192.168.1.253, Subnet mask is 255.255.255.0, and Default gateway is 192.168.1.1. The Role is ON-BOARD and Location is OR-SBR 932. The Status is "Configuration OK".

Note: If the IP address is 0.0.0.0 then a DHCP server is not available.



Offboard Radio – Configure



Warning

Remote controlled machines operate in this area. Personal injury or death could result from entry to this area. Do not enter this area when the Area Isolation System red warning light is flashing.

Establish Ethernet connection to radio via remote laptop

- 1) Apply power to the radio from an appropriate 48VDC source.
- 2) Using a 2M RJ45 to M12 Ethernet cable (363-3406) connect the LAN port 1 or LAN Port 2 to a remote laptop.
- 3) Open the CAT Network Devices Manager (NDM) and observe the configuration of the radio on the network.

If the radio is operating in the onboard configuration change to offboard configuration as follows:

- 1) Select the radio by single clicking in any column in the main menu describing the product.



Do not double click as this will direct you to the radios configuration pages which is not accessible when the radio has a “Product with limited connectivity” status.



The screenshot shows the CAT8 Networking Devices Manager V2.10.8 interface. The top navigation bar includes buttons for Refresh, Essential Config. (highlighted), Upgrade, Web, RSSI, and Hide selection. The main content area displays a table with columns: Product, Role, Location, MAC address, IP address, Association, and SSID. Below the table, there is a text box with the following information:

"OR-RCM 103" is a 366-7696, MAC address 00:80:48:6E:82:2B, firmware version 5.40.3, firmware id "E2080.CA.1"
 IP address: 0.0.0.0

Below this text is a smaller table with columns: Radio, Channel, SSID, Role, Security, Association.

Radio	Channel	SSID	Role	Security	Association
#0	null/Unavailable	null	ON-BOARD	Unavailable	RSSI -1% (0 dBm)

2) Single click the "Essential Config." menu

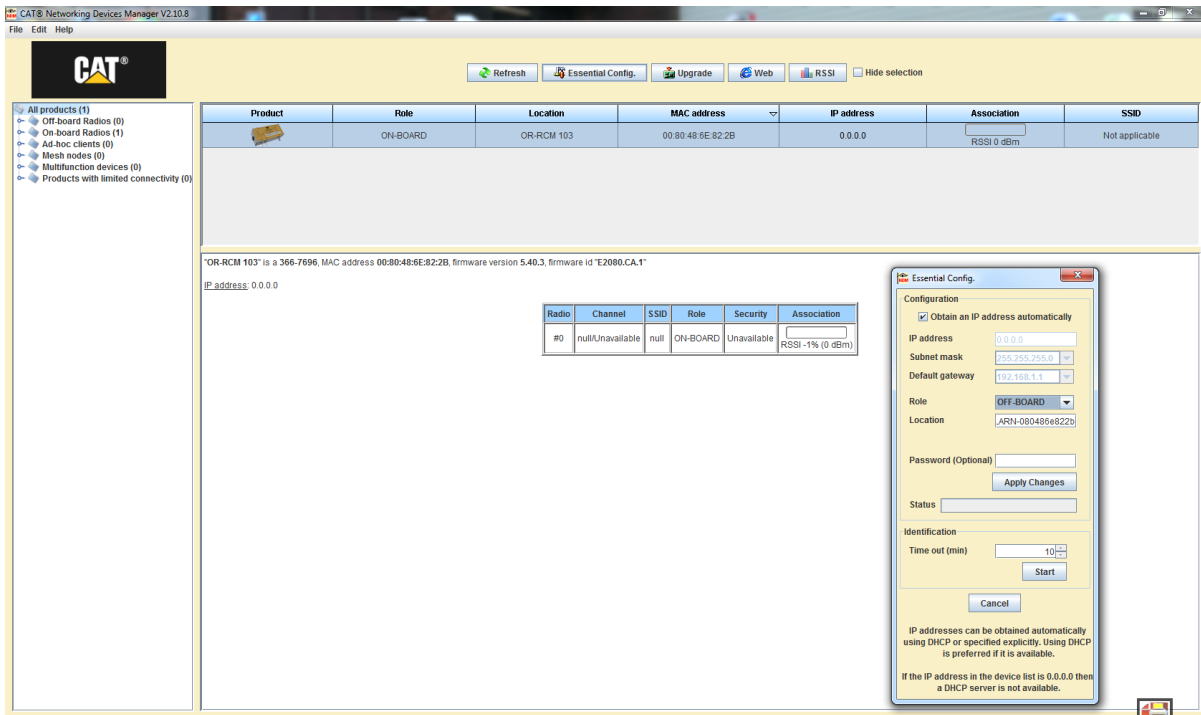
The screenshot shows the same CAT8 Networking Devices Manager V2.10.8 interface, but with the 'Essential Config.' dialog box open. The dialog box contains the following configuration options:

- Obtain an IP address automatically
- IP address: 0.0.0.0
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.1.1
- Role: ON-BOARD
- Location: OR-RCM 103
- Password (Optional):
- Apply Changes
- Status:
- Identification
- Time out (min): 10
- Start
- Cancel

At the bottom of the dialog box, there is a note: "IP addresses can be obtained automatically using DHCP or specified explicitly. Using DHCP is preferred if it is available. If the IP address in the device list is 0.0.0.0 then a DHCP server is not available."



3) Select OFF-BOARD from the drop down menu



The screenshot shows the CATS Networking Devices Manager V2.10.8 interface. The main window displays a table of devices with columns for Product, Role, Location, MAC address, IP address, Association, and SSID. The selected device is 'OR-RCM 103' with Role 'ON-BOARD', Location 'OR-RCM 103', MAC address '00:80:48:6E:82:2B', IP address '0.0.0.0', Association 'RSSI 0 dBm', and SSID 'Not applicable'. The 'Essential Config.' window is open, showing the configuration for the selected device. The 'Role' dropdown menu is set to 'OFF-BOARD'. Other configuration options include IP address (0.0.0.0), Subnet mask (255.255.255.0), Default gateway (192.168.1.1), Password (Optional), Status, Identification, and Time out (min) (10). The 'Apply Changes' button is visible.

Radio	Channel	SSID	Role	Security	Association
#0	null/Unavailable	null	ON-BOARD	Unavailable	RSSI -1% (0 dBm)



Do not close the essential config window until the configuration changes have been successfully completed as this will cause a cancelation of the desired changes.




CATS Networking Devices Manager V2.10.8

File Edit Help

Refresh Essential Config. Upgrade Web RSSI Hide selection

All products (1)
 Off-board Radios (0)
 On-board Radios (1)
 Ad-hoc clients (0)
 Mesh nodes (0)
 Multifunction devices (0)
 Products with limited connectivity (0)

Product	Role	Location	MAC address	IP address	Association	SSID
	ON-BOARD	OR-RCM 103	00:80:48:6E:82:2B	0.0.0.0	RSSI 0 dBm	Not applicable

"OR-RCM 103" is a 366-7696, MAC address 00:80:48:6E:82:2B, firmware version 5.40.3, firmware id "E2080.CA.1"

IP address: 0.0.0.0

Radio	Channel	SSID	Role	Security	Association
#0	null/Unavailable	null	ON-BOARD	Unavailable	RSSI -1% (0 dBm)

Essential Config.

Configuration

Obtain an IP address automatically

IP address: 0.0.0.0

Subnet mask: 255.255.255.0

Default gateway: 192.168.1.1

Role: OFF-BOARD

Location: LARN-Draw P1.1

Password (Optional):

Apply Changes

Status: Configuring...

Identification

Time out (min): 10

Start

Close

IP addresses can be obtained automatically using DHCP or specified explicitly. Using DHCP is preferred if it is available.


If the IP address in the device list is 0.0.0.0 then a DHCP server is not available.

CATS Networking Devices Manager V2.10.8

File Edit Help

Refresh Essential Config. Upgrade Web RSSI Hide selection

All products (1)
 Off-board Radios (1)
 On-board Radios (0)
 Ad-hoc clients (0)
 Mesh nodes (0)
 Multifunction devices (0)
 Products with limited connectivity (0)

Product	Role	Location	MAC address	IP address	Association	SSID
	OFF-BOARD	LARN-Draw P1.1	00:80:48:6E:82:2B	0.0.0.0	Unavailable	Not applicable

Select a product from the table to display its details

Essential Config.

Configuration

Obtain an IP address automatically

IP address: 0.0.0.0

Subnet mask: 255.255.255.0

Default gateway: 192.168.1.1

Role: OFF-BOARD

Location: LARN-Draw P1.1

Password (Optional):

Apply Changes

Status: Configuration OK

Identification

Time out (min): 10

Start

Close

IP addresses can be obtained automatically using DHCP or specified explicitly. Using DHCP is preferred if it is available.

If the IP address in the device list is 0.0.0.0 then a DHCP server is not available.

Note: If the IP address is 0.0.0.0 then a DHCP server is not available.

