neocom software

TRBOnet

Radio-over-IP Gateway

TRBOnet Swift Agent A001

User Manual

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MOTOROLA PROFESSIONAL RADIO APPLICATION partner

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Last revised on 2 August 2017.

Contents

1. Introduction

1.1. About This Document

The information in this document is intended for engineers responsible for building MOTOTRBO radio networks and programming two-way radios for end users.

The document describes in details how to connect and set up the TRBOnet Swift Agent A001 hardware radio-over-IP gateway.

1.2. About TRBOnet Swift

TRBOnet Swift is a family of hardware products designed by Neocom Software Solutions, Co. Ltd. for MOTOTRBO radio networks. The TRBOnet Swift family hardware is presented by radio-over-IP gateways, the ST001 option board, the DT500 data transfer module, and the TR001 GSM tracker.

For more information on the TRBOnet Swift family products, refer to our website.

1.3. Contacts

Region	Phone	Email & Support
EMEA	+44 203 608 0598	info@trbonet.com — general and commercial inquiries
Americas	+1 872 22 28 726	support@trbonet.com — technical support
APAC	+61 28 6078325	http://kb.trbonet.com — online knowledge base

2. About Swift Agent A001

TRBOnet Swift Agent A001 is a hardware radio-over-IP gateway designed to interconnect a Motorola MOTOTRBO 3*** and 4*** series professional two-way radio with TRBOnet Server on an IP network. The radio can transfer voice and data to one or several connected TRBOnet Servers over IP.

2.1. Features

- Designed for MOTOTRBO 3***/4***series professional two-way radios
- Compatible with digital and analog radios by Motorola and other vendors
- Transfer of voice and data from/to a radio over IP
- Support for multiple (up to 8) connected TRBOnet Servers
- Control of a connected MOTOTRBO radio (power on/off, restart)
- Self-diagnostics and alarm notification over IP
- Designed for long-running unattended operation in hard-to-reach places
- Mountable to a 19-inch 2U rack
- Integrated 220VAC power supply
- Backup battery power system
- Forced air cooled with integrated fans
- Automatic temperature monitoring and control
- Five input contacts and six output contacts for external hardware (SCADA, sensors, and other)

2.2. Functionality

Radio-over-IP gateway

Connected to a two-way radio and to the LAN, Swift Agent A001 acts as a radio-over-IP gateway, providing the following features:

- Transfer of voice and data from a wirelessly connected MOTOTRBO radio to TRBOnet and in the backward direction over IP.
- Transfer of voice only between a cable-connected radio and TRBOnet over IP.
- Automatic power-up or power-off of a MOTOTRBO radio when Swift Agent A001 is on/off.
- Broadcasting outgoing IP traffic (voice, data, alarm notifications) to multiple connected TRBOnet Servers.

Temperature control system

Swift Agent A001 is equipped with two fans and a controller to keep the hardware at its optimum operating temperatures. The cooling system enables the following:

- Performs continuous monitoring of the temperature inside the unit.
- Automatically starts and stop the fans to keep the appropriate temperature.

- Sends an alarm notification to all connected TRBOnet Servers if the threshold value is exceeded.

Battery backup power system

Swift Agent A001 features a built-in power supply unit that operates from an AC input and provides the DC operating voltage for the IP controller, the temperature control system, and the connected radio. The power system can be enhanced with a user supplied external 12 V (nominal) battery to support the battery backup feature so that when the AC power fails, Swift Agent A001 can be powered from a DC battery source.

The battery backup power system enables the following:

- Controls the power supply and switches to the backup battery automatically if the AC power fails.
- Sends an alarm notification to all connected TRBOnet Servers in case of power loss or when switching to the backup power supply.
- Charges the battery while operating from the AC power supply.

2.3. Restrictions

1. Due to changes introduced by Motorola into recent MOTOTRBO firmware, we do not recommend that you use **Swift IP Gateways A001, A002** and **A200** in the wireless (NRF) mode in conjunction with MOTOTRBO radios that have firmware version 2.60 and higher. The latest firmware that can be used in this mode is 2.05.60. The **A200 Gateway** can work with newer firmware in the wired (USB) mode. Please do not update your control radios beyond this version number if you have **A001** or **A002** in the **wireless (NRF)** mode.
2. **Swift IP Gateways A001, A002** and **A200** in the **wireless (NRF)** mode do not support revert channels and data repeaters. The **A200 Gateway** in the **wired (USB)** mode must be used instead.
3. We do not recommend to install any Swift IP Gateways in the same subnet as trunked repeaters (applies to Capacity Plus and Linked Capacity Plus).

2.4. Panels

TRBOnet Swift Agent A001 comes in a metal case mountable in a 19-inch 2U rack. The front panel features a slot for a two-way mobile radio (1) and two handles (2) for transportation and mounting.

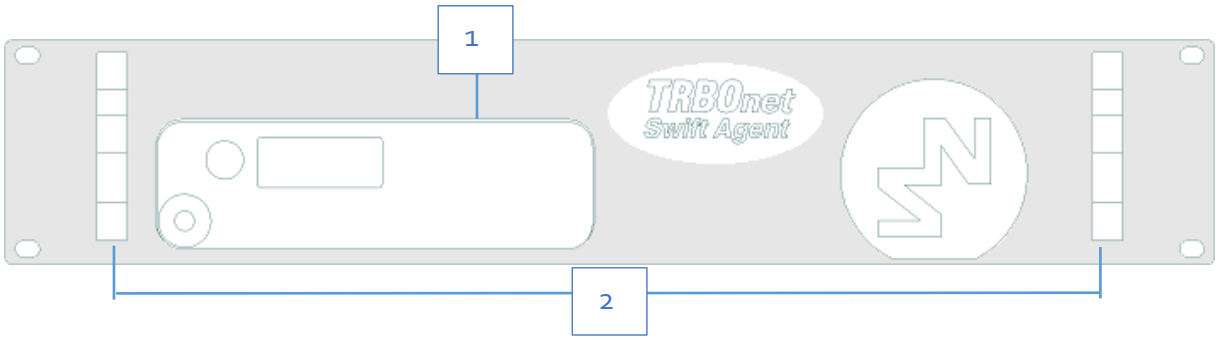

Figure 1: The front panel of Swift Agent A001

The rear panel of the unit has two built-in fans (3), several connectors, and a power switch (8).

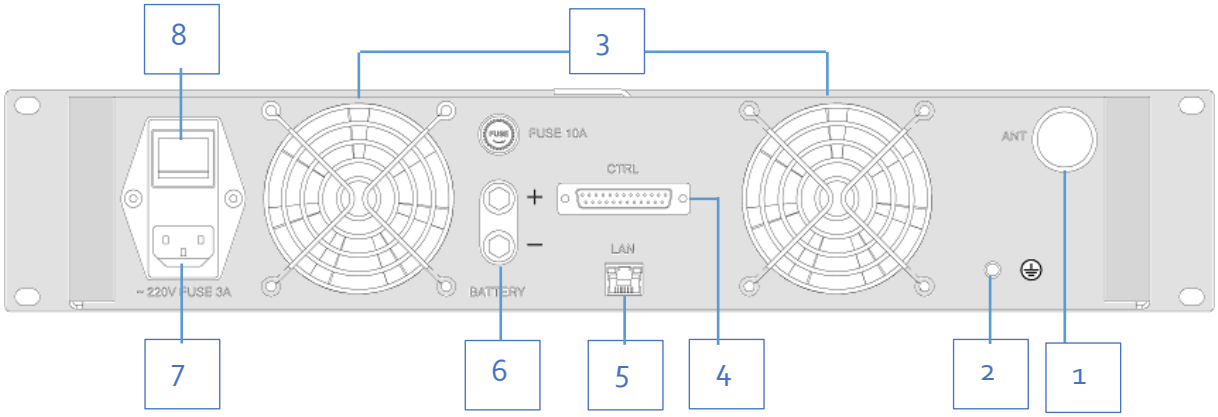

Figure 2: The rear panel of Swift Agent A001

The rear panel connectors and components are as follows (*Figure 2*):

- (1): External antenna socket
- (2): Earth ground socket
- (3) Two built-in fans
- (4) RS-232 port (not used)
- (5) LAN port
- (6) Battery (+)/(-) terminals
- (7) AC power socket
- (8) Power switch

2.5. Interior Layout

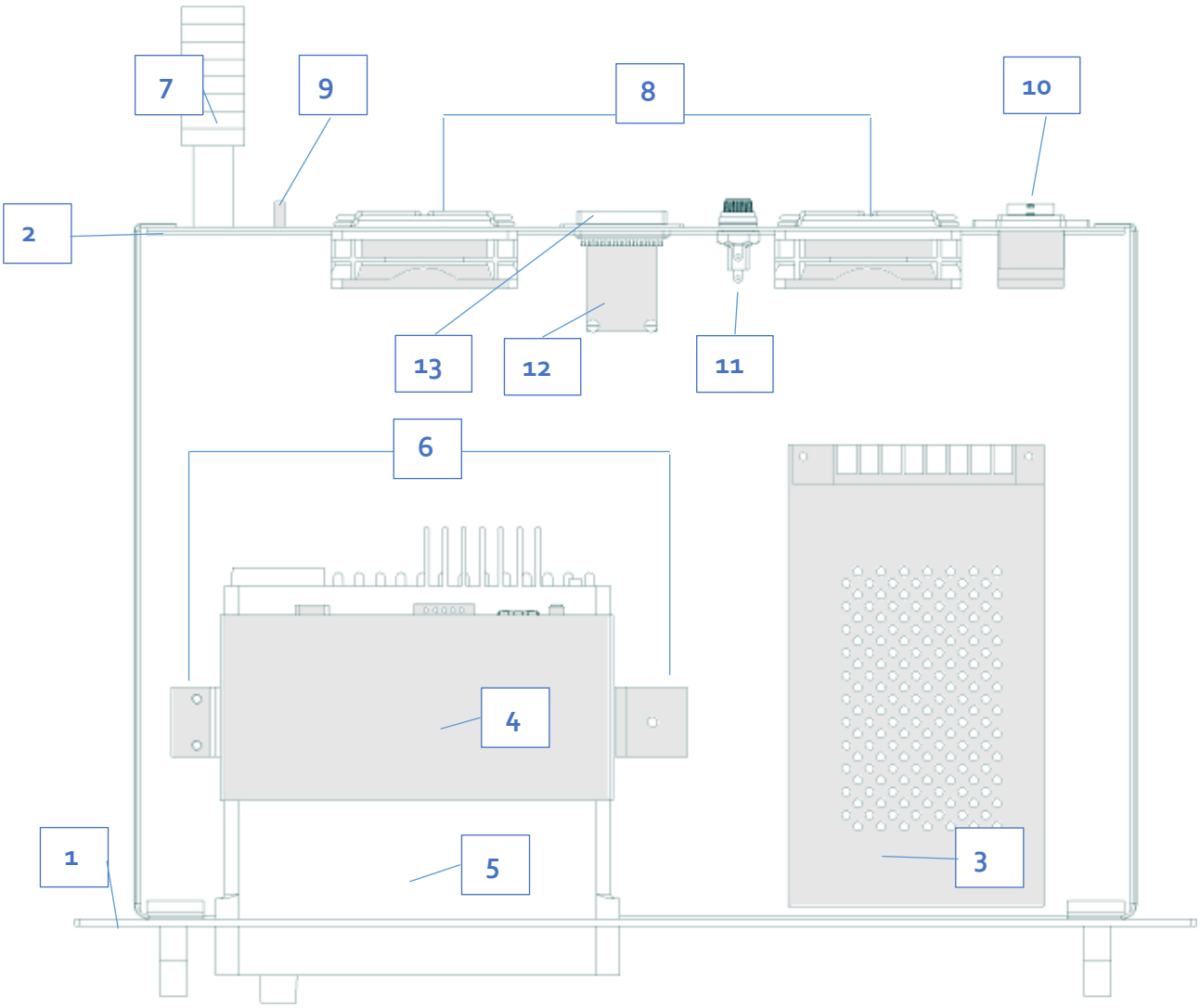

Figure 3: Top view of the Swift Agent A001 unit

The location of all functional components inside the unit is shown on *Figure 3*.

- (1): Front panel
- (2): Rear panel
- (3) Power supply unit
- (4) Built-in IP controller
- (5) Radio (user supplied)
- (6) Rack for the radio
- (7) Antenna (user supplied)
- (8) Two fans
- (9) Earth ground socket
- (10) AC power socket and switch
- (11) Battery terminals
- (12) Network adapter card
- (13) LAN and RS-232 ports

2.6. Delivery Kit

The delivery package includes the hardware and accessories described in *Table 1*.

Table 1: TRBOnet Swift Agent A001 delivery kit

#	Item	Description	Quantity
1	TRBOnet Swift Agent A001	The hardware unit with an integrated IP controller (TRBOnet Swift Agent A002), power supply unit, and temperature control system.	1
2	TRBOnet Swift ST001	The option board for a MOTOTRBO radio. Not supplied for non-MOTOTRBO radios.	1
3	Flex cable	The flex cable for the option board. Not supplied for non-MOTOTRBO radios.	1
4	RF antenna	The antenna for the integrated IP controller. Not supplied for non-MOTOTRBO radios.	1
5	Service cable	The cable to connect a radio to the integrated IP controller.	1
6	Power cable	The cable to connect the unit to 220V AC.	1
7	Ring terminal	The ring connector for the ground cable.	1
8	Screw kit	The screw kit for mounting the unit to a 19-inch 2U rack.	1
9	Rubber legs	The rubber legs for the unit.	4
10	Passport	Technical documentation for TRBOnet Swift Agent A001/002.	1

2.7. Acronyms

Table 2: Acronyms

Acronym	Description
AC	Alternating current
CPS	Customer Programming Software
CSQ	Carrier Squelch
DC	Direct Current
GPIO	General-Purpose Input/Output
IP	Internet Protocol
ISM	Industrial, Scientific, and Medical (radio band)
LAN	Local Area Network
LNA	Low-Noise Amplifier
MAC	Media Access Control
Mbps	Megabits per second
NRF	Nordic RF
PTT	Push To Talk
RF	Radio Frequency
RX	Reception
TCP	Transmission Control Protocol
USB	Universal Serial Bus
V	Volt

3. Connection and Setup

TRBOnet Swift Agent A001 operates in the digital or analog mode. The choice of the operational mode depends on the type of the connected radio.

Table 3: Operational modes supported for different types of radios

Radio	Agent mode	Connection with the radio
Motorola MOTOTRBO radio	Digital	Wireless (through the option board)
Other radio (digital or analog)	Analog	Wired

For a MOTOTRBO radio, use Swift Agent A001 in the digital mode. In this mode, the radio and Swift Agent A001 transfer voice and data wirelessly, which is possible due to the Swift ST001 option board installed into the radio.

For any other radio by Motorola or by other vendor, use Swift Agent A001 in the analog mode. In this mode, the radio and Swift Agent A001 are interconnected using the service cable and transfer voice only. Wired communication does not require the Swift ST001 option board installed in the radio.

3.1. Digital Mode (MOTOTRBO Only)

To prepare TRBOnet Swift Agent A001 for operation with a MOTOTRBO professional two-way radio, perform the following steps:

Table 4: High-level steps to prepare TRBOnet Swift Agent A001 for operation in the digital mode

No	Step	Notes
1	Install the option board into the radio.	Refer to section *3.1.1. Installing the Option Board (page 9).*
2	Update the firmware of the option board and configure the option board and the radio.	Refer to section *3.1.2. Configuring the Radio (page 10).*
3	Install and connect the radio inside the unit.	Refer to section *3.1.3. Installing and Connecting* the Radio *(page 12).*

No	Step	Notes
4	Install the unit to a permanent location and do all external connections.	Refer to section *3.1.4. Installing and Connecting the* Unit *(page 14)*.
5	Update the firmware of Swift Agent A001 and configure its network settings and NRF settings.	Refer to section *3.1.5. Configuring Swift Agent A001 (page 14)*.

3.1.1. Installing the Option Board

The Swift Agent A001 is supplied with the option board that you need to install into a MOTOTRBO radio.

To install the option board into a radio:

1. Insert the dismantling tool in the groove between the control head and the radio assembly.

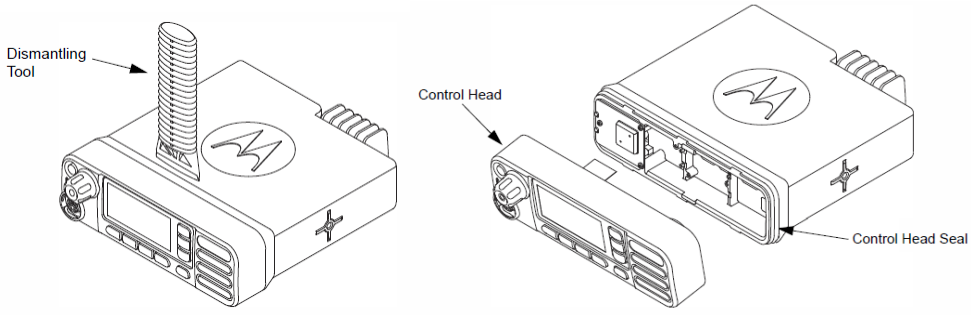

Figure 4: Removing the control head

2. Press the dismantling tool under the control head to release the snap features. Pull the control head away from the radio assembly. Remove the control head seal.
3. Orient the flex cable (supplied in the delivery kit) so that its contacts face the option board. Secure the connector latch to the flex cable.

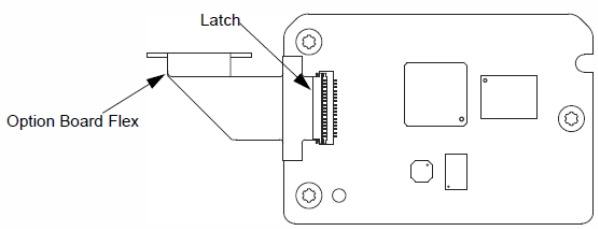

Figure 5: Connecting the flex cable to the option board

4. Connect the flex cable from the option board to the main board connector.

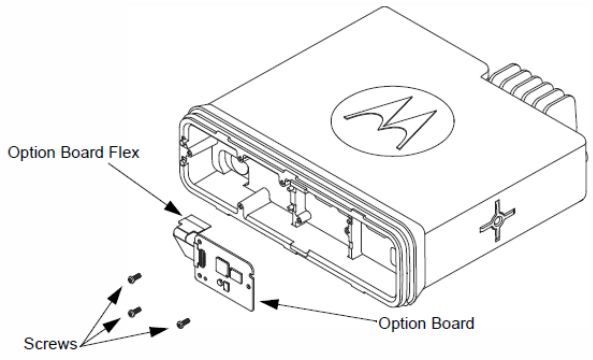

Figure 6: Connecting the option board to the main board of the radio

5. Align the option board to the mounting holes ensuring that the flex tabs are against the chassis alignment posts.
6. Using a T6 TORX™ driver, tighten the three screws to 0.28 N-m (2.5 lbs-in) to secure the option board to the chassis.
7. Assemble the control head seal on the radio. Assemble the control head to the radio chassis by aligning one side of the control head assembly tabs to one side of the radio chassis tabs and then rotate the control head assembly until the other side engages.

Note: Verify that the control head seal is not pinched and not visible. If a pinch is found, disassemble the control head, reseat the seal and reassemble the control head.

3.1.2. Configuring the Radio

After you have installed the option board into the radio, update the firmware of the option board to the latest version. Then configure the NRF settings of the option board and program the radio for communication through the option board on all channels.

To perform these updates, you need the following:

- A programming cable for connecting the radio to a USB port of the computer.

  Note: The programming cable is not included in the delivery kit. Use the cable recommended by the manufacturer of the radio.

- The MOTOTRBO CPS software installed on your computer.
- The TRBOnet Swift Manager software installed on your computer. To install the latest version of this software, download the distribution package from www.trbonet.com.

To configure the radio:

1. Connect the programming cable to the powered off radio and to a USB port of your computer. Power up the radio.
2. Launch the TRBOnet Swift Manager application.
3. To update the firmware of the option board, do the following:

a. On the menu bar, choose **USB**. Ensure that the **Allow selection of firmware** option on the **Tools** menu is not selected.

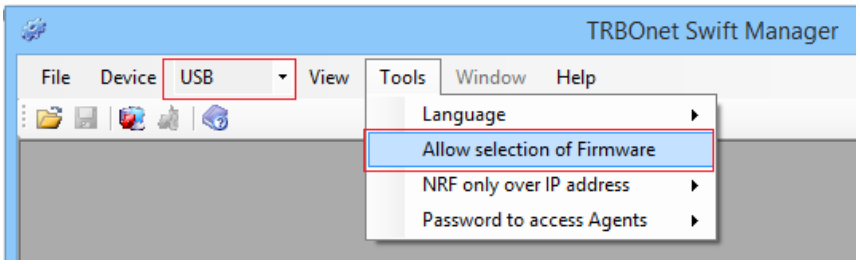

Figure 7: Choosing the required options for the firmware update

b. Click **Update** on the **Device** menu. The latest firmware is loaded to the option board automatically.

4. To configure the option board, do the following:

a. Open the default configuration of the option board in TRBOnet Swift Manager by clicking **Read** on the **Device** menu:

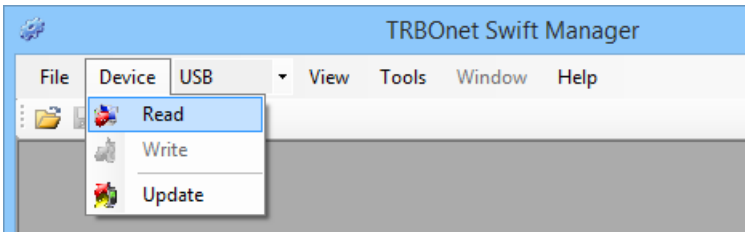

Figure 8: Opening the configuration of the option board

b. In the left pane, click **ISM transceiver settings**.

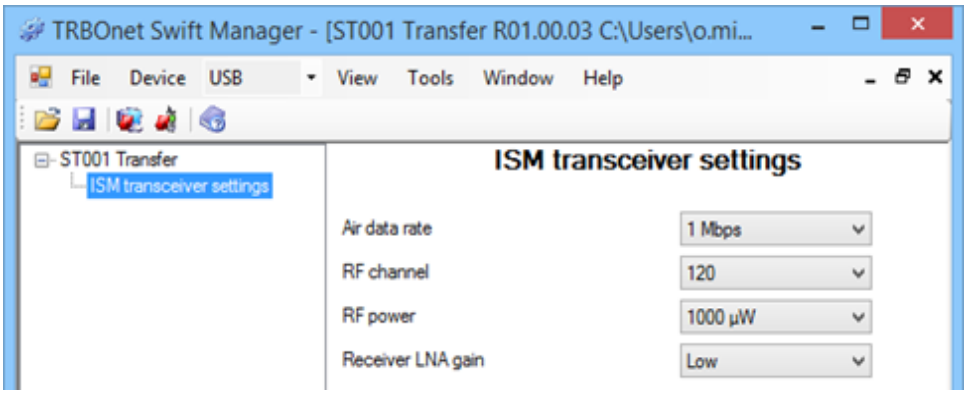

Figure 9: Configuring the NRF (wireless) connection settings on the option board

In the right pane, specify the NRF connection settings:

- **Air data rate**: The data transfer rate for wireless communication. Values: 1 Mbps, 2 Mbps. Default: 1 Mbps.
- **RF channel**: The radio channel for wireless communication. Range: 0 to 125. Default: 120.
- **RF power**: The power of the ISM transceiver. Values: 20, 60, 250, 1000 µW. Default: 1000 µW.

- **Receiver LNA gain**: Sensitivity of the receiver. Values: Low, High. Default: Low.

c. Write the configuration to the option board by clicking **Write** on the **Device** menu.

5. Close TRBOnet Swift Manager.
6. To configure the radio, launch MOTOTRBO CPS and do the following:

a. Click **Read** on the **Device** menu to open the configuration of the radio.
b. In the left pane, expand the **Channels** section.
c. In all zones where the radio needs to work though the option board, click the channels one after another. For each channel, select **Option Board** in the right pane.

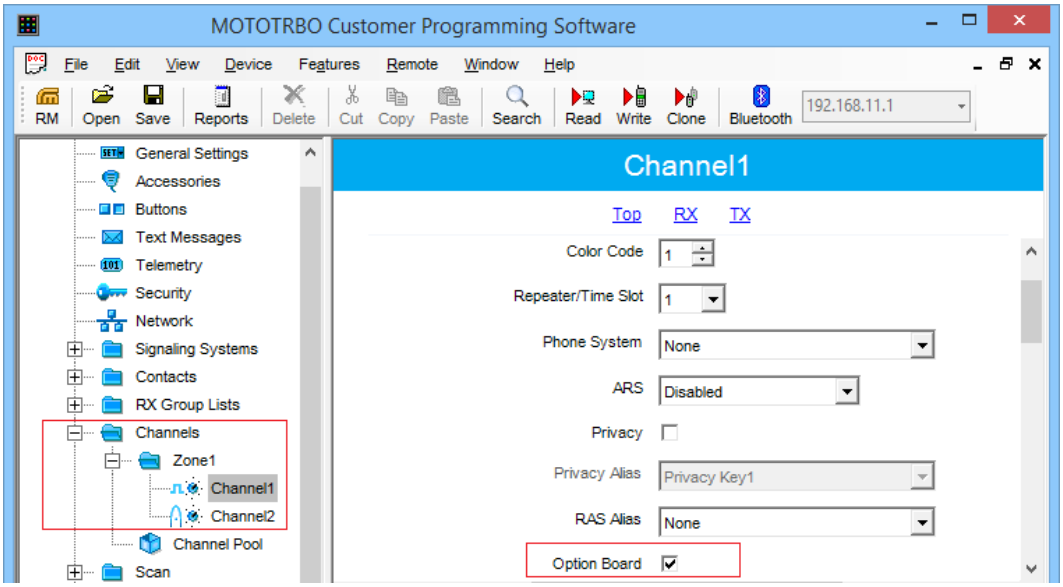

Figure 10: Enabling the use of the option board on the radio channels

d. Click **Write** on the **Device** menu to save the updates to the radio.

7. Close MOTOTRBO CPS and disconnect the radio from the computer.

3.1.3. Installing and Connecting the Radio

After you have configured your MOTOTRBO radio, install it into the unit and connect it to all required components inside the unit.

To install and connect the radio:

1. Remove the screws and lift the top cover of the unit.
2. Insert the radio into the slot on the front panel of the unit, orienting the radio's back panel inside the unit. Use screws of a proper size to secure the radio to the unit.

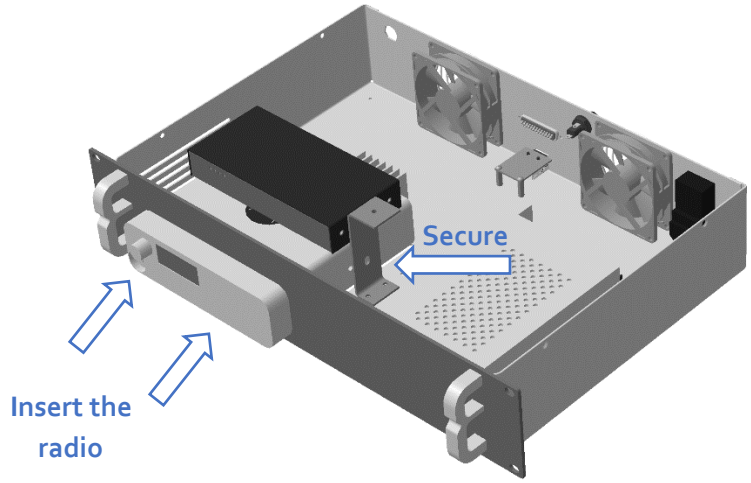

Figure 11: Installing the radio into the unit

3. Do the following connections inside the unit:
   a. Connect the RF antenna to the IP controller. The antenna is supplied in the delivery kit.

Figure 12: The antenna input and the CTRL2/DB9 connector of the IP controller

> Note: The RF antenna improves stability of the NRF (wireless) connection with the option board installed in the radio.

   b. Connect the radio to the IP controller. The service cable is already plugged to the IP controller (CTRL2/DB9 connector) and to the RS-232 port inside the unit. Connect the remaining plug to the service jack of the MOTOTRBO radio.

> Note: This connection powers up/off the radio automatically when Swift Agent A001 is turned on/off and enables remote monitoring of the powered/ powered off state of the radio.

   c. Connect the radio to the extension cord that is secured to the antenna socket inside the unit.
   d. Connect the radio to the power supply. The black-and-red power cable is already connected to the integrated power supply unit.
4. Reinstall the top cover and secure it to the unit with the four screws.

3.1.4. Installing and Connecting the Unit

When the unit is assembled, install it to a permanent location and do all external connections. All connectors are located on the rear panel of the unit (*Figure 2, page 4*).

To install and connect the unit:

1. Mount the unit to the 19-inch rack. To secure the unit to the rack, use the screws supplied in the delivery kit.

   Alternatively, you can install the unit on the even surface. Use the four rubber legs supplied in the delivery kit.
2. Connect the unit to the LAN.
3. Connect an external antenna to the antenna socket of the unit.
4. Connect the unit to the ground.

   Note: The ground cable is not supplied. To create a ground cable, crimp a wire with the ring terminal available in the delivery kit.
5. (Optional) Connect an external battery to the (+) and (-) contacts of the unit.
6. Connect the power cable to the AC power inlet of the unit. Plug the unit to the source of 220V AC.

3.1.5. Configuring Swift Agent A001

When the unit is installed and all external connections are done, update the firmware of your Swift Agent A001 to the latest version. Then configure it for operation in the specified IP network and for wireless communication with the radio.

To configure TRBOnet Swift Agent A001, you need the following:

- A computer connected to the LAN.
- The TRBOnet Swift Manager software installed on the computer. To install the latest version of the software, download the distribution package from www.trbonet.com.

To configure TRBOnet Swift Agent A001:

1. Power up your Swift Agent A001 using the power switch on the back panel of the unit.
2. Launch the TRBOnet Swift Manager software.
3. To update the firmware of Swift Agent A001, do the following:
   a. On the menu bar, choose **LAN**. Ensure that the **Allow selection of firmware** option on the **Tools** menu is not selected.
   b. Click **Update** on the **Device** menu. The latest firmware is loaded to Swift Agent A001 automatically.
4. To configure Swift Agent A001, do the following:

a. Open the default configuration of Swift Agent A001 be clicking **Read** on the **Device** menu.

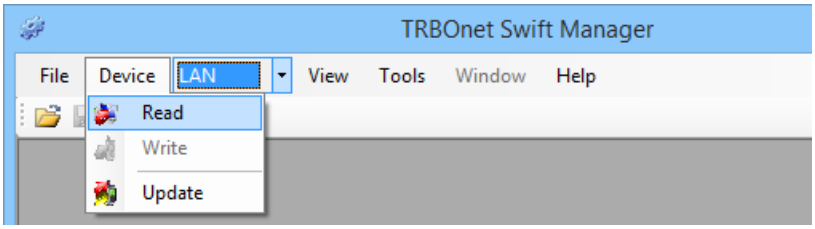

Figure 13: Opening the configuration of TRBOnet Swift Agent

b. In the **Searching the devices...** popup window, point your TRBOnet Swift Agent A001 in the list and click **OK**.

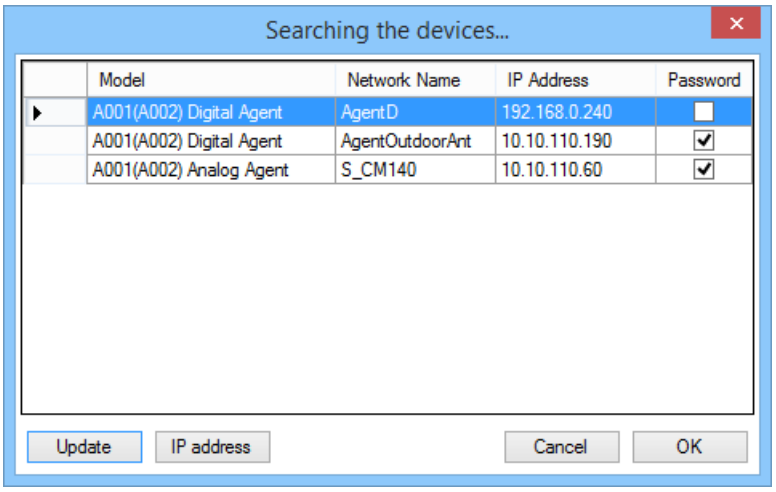

Figure 14: Selecting the device to be configured

The configuration of your TRBOnet Swift Agent A001 appears in the main window of the application.

Note: Your device may not appear in the list, or you may get the "Cannot read the codeplug" error message after you click **OK**. If this happens, modify the IP network settings of your computer to be in the same subnet with the device. Then try to open the configuration of your device once again. For more information, refer to section *3.1.3.1. Changing TCP/IP Settings (page 17)*.

c. In the left pane, click **Network settings** and update the IP network settings as required.

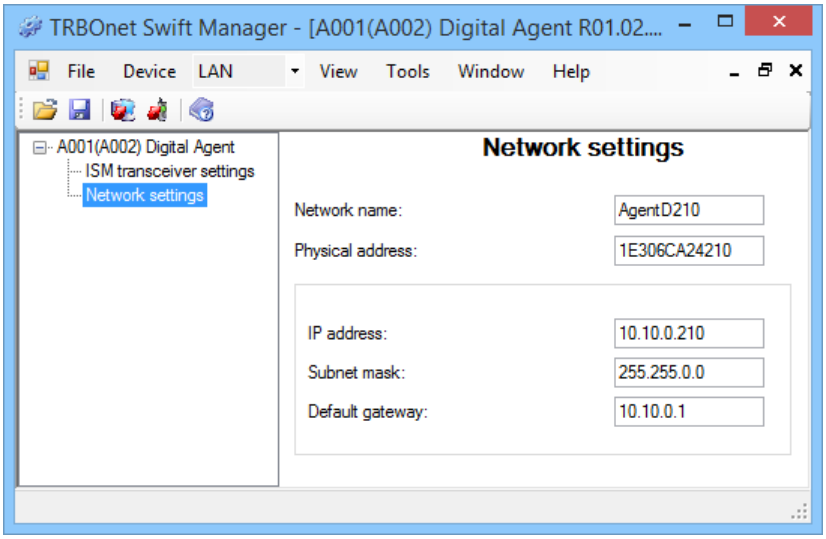

Figure 15: Configuring the network settings

Note: If the specified IP network includes multiple instances of Swift Agent A001/A002, make sure to update the default MAC address in the **Physical address** field.

d. In the left pane, click **ISM transceiver settings** and update the NRF connection settings with values specified in the configuration of the option board (see *Figure 9, page 11*).

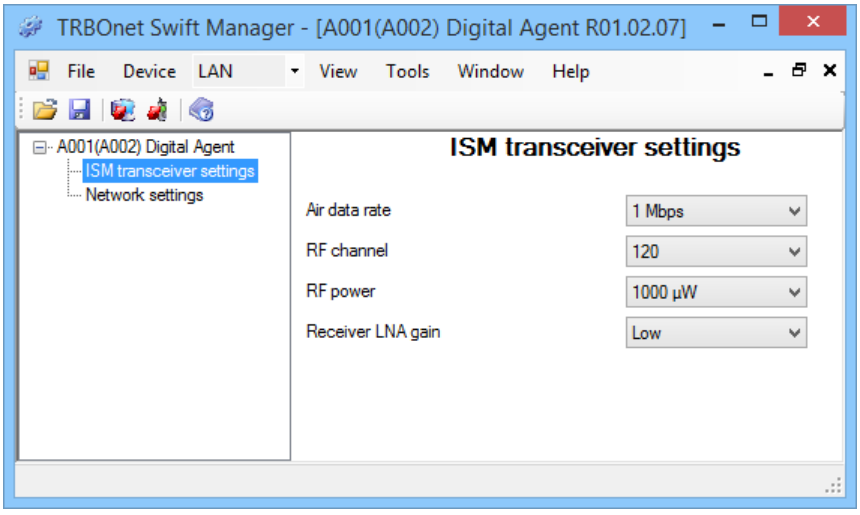

Figure 16: Configuring the NRF connection with the radio

e. (Optional) In the left pane, click **A001(A002) Digital Agent** and protect the configuration with the password. Enter your password in the **Codeplug password** field.

f. On the **Device** menu, click **Write**.

5. Close the application.

3.1.5.1. Changing TCP/IP Settings

If TRBOnet Swift Manager cannot find your hardware in the LAN or read the hardware configuration, consider updating the TCP/IP network settings of your computer to be in the same subnetwork with the hardware.

If TRBOnet Swift Manager finds your hardware in the LAN, you can see the IP address of your hardware in the **Searching the devices...** window:

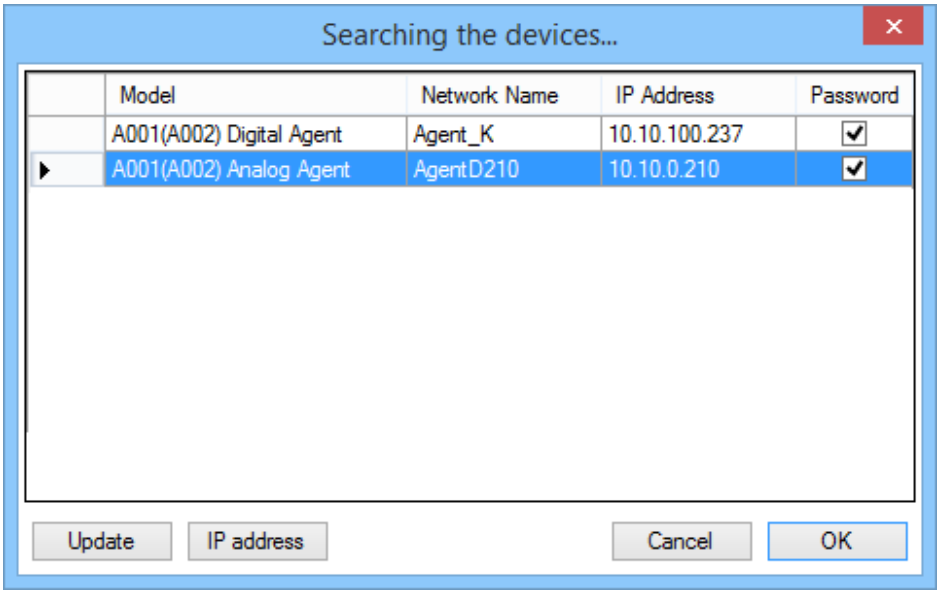

Figure 17: Getting the IP address of Swift Agent A001

A brand new Swift Agent A001 may not be found in the LAN. In this case, your hardware uses the default network settings:

- IP address: 192.168.0.240
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.0.1

To change the TCP/IP settings of your computer:

1. Open the **Start** menu and click **Control Panel**.
2. In the search box, type "adapter". Under **Network and Sharing Center**, click **View network connections**.
3. Right-click the connection that you want to change. Choose **Properties** in the popup menu.
4. In the **Local Area Connection Properties** window, go to the **Networking** tab. Under **This connection uses the following items**, click **Internet Protocol Version 4 (TCP/IPv4)** and then click **Properties**.
5. In the popup window, click **Use the following IP address**. Update the **IP address** and **Subnet mask** settings to locate the computer in one local area subnetwork with your Swift Agent A001.

For example, your Swift Agent A001 uses the IP address **10.10.0.210** and the subnet mask **255.255.255.0**. To locate your computer in the same subnet, you can give it the IP address in the range **10.10.0.*[0 to 255]*** and the subnet mask **255.255.255.0**.

Note: The IP address assigned to the computer must not be in use by any other device in the network. Contact your network administrator for help.

6. Click **OK**, again **OK**, and **Close**.

3.2. Analog Mode

To prepare TRBOnet Swift Agent A001 for operation in the analog mode, perform the following steps:

Table 5: High-level steps to prepare TRBOnet Swift Agent A001 for operation in the analog mode

#	Step	Notes
1	Assemble the service cable.	Refer to section *3.2.1. Assembling the Service Cable (page 19).*
2	Update the configuration of the radio.	Refer to section *3.2.2. Configuring the Radio (page 20).*
3	Install and connect the radio inside the unit.	Refer to section *3.2.3. Installing and Connecting the Radio (page 20).*
4	Install the unit to a permanent location and do all external connections.	Refer to section *3.1.4. Installing and Connecting the* Unit *(page 14).*
5	Power up and configure Swift Agent A001.	Refer to section *3.2.5. Configuring Swift Agent A001 (page 22).*

3.2.1. Assembling the Service Cable

In the analog mode, a radio and Swift Agent A001 communicate through a wired connection. Swift Agent A001 comes with the service cable already connected to the IP controller inside the unit. You need to finish the service cable by connecting the plug compatible with the accessory connector of your radio.

Note: The radio connector plug is not included in the delivery kit. Contact the manufacturer of your radio or your sales representative to get the plug compatible with the service jack of your radio.

To assemble the service cable:

1. Remove the screws and lift the top cover of the unit.
2. Disconnect the service cable from the IP controller and from the RS-232 port inside the unit.
3. Crimp the wires on the other end of the service cable.

4. Connect the crimped wires to the radio connector plug, ensuring that the functions of the coupled pins on the radio and on the CTRL1/DB26 connector of the IP controller complement each other.

> Note: The five wires of the service cable link the following CTRL1/DB26 connector pins: 24 (Audio In), 23 (Audio Out), 21 (PTT Out), 22 (CSQ In), and 18 (Ground). To learn the color of the wire connected to each pin, remove the screws and open the DB26 plug.
>
> To learn the pins numbers and functions of the radio service connector, refer to the documentation of your radio.

The following example shows how to assemble the service cable for a Motorola CM/GM series mobile radio:

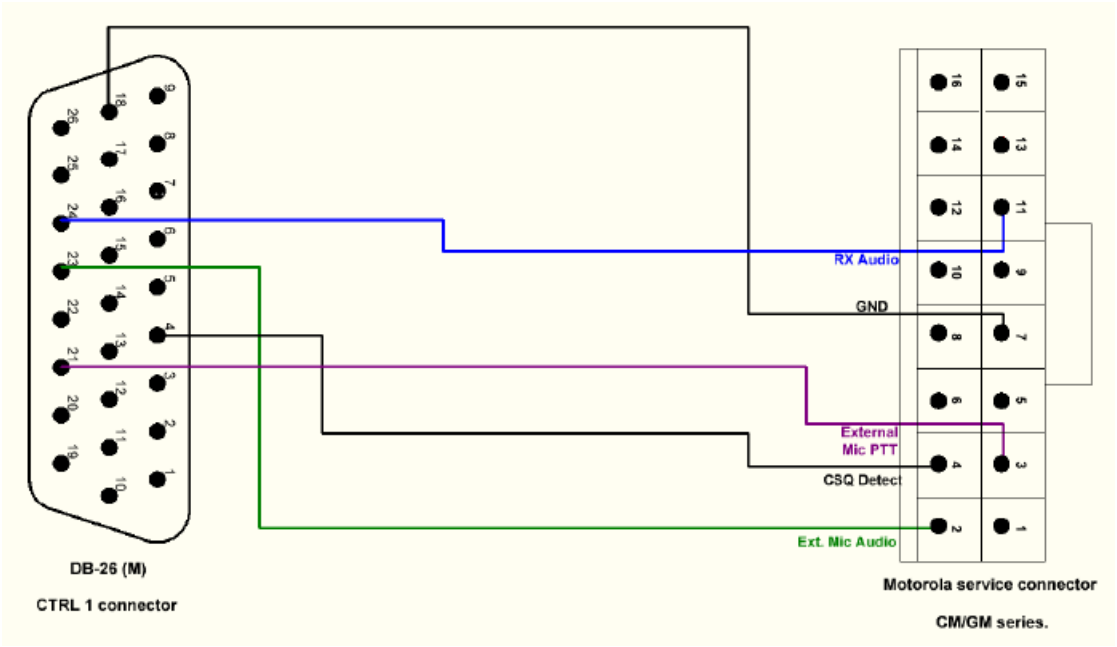

Figure 18: Assembling the service cable for a Motorola CM/GM series radio

The colored lines indicate the wire links: Audio In (pin 24 on DB26) to RX Audio (on the radio), Audio Out (pin 23) to Ext Mic Audio, PTT Out (pin 21) to Ext Mic PTT, CSQ In (pin 22) to CSQ Detect, Ground (pin 18) to Ground.

3.2.2. Configuring the Radio

When the service cable is assembled, configure the radio to use the coupled GPIO pins accordingly. Use the programming toolkit provided by the manufacturer of your radio.

The following example describes how to configure a MOTOTRBO radio in the analog mode using the MOTOTRBO CPS software. Use these instructions as a model when configuring your radio.

To configure the radio connector pins in MOTOTRBO CPS:

1. Connect the programming cable to the service jack of the powered off radio and to a USB port of your computer.
2. Power up the radio.
3. Launch the MOTOTRBO CPS application.
4. In MOTOTRBO CPS, open the configuration of your radio by clicking **Read** on the **Device** menu.
5. In the navigation (left) pane, click **Accessories**.
6. In the right panel, click the **GPIO Physical Pins** link.
7. In the **GPIO Physical Pins** section, configure all GPIO pins linked by the service cable.

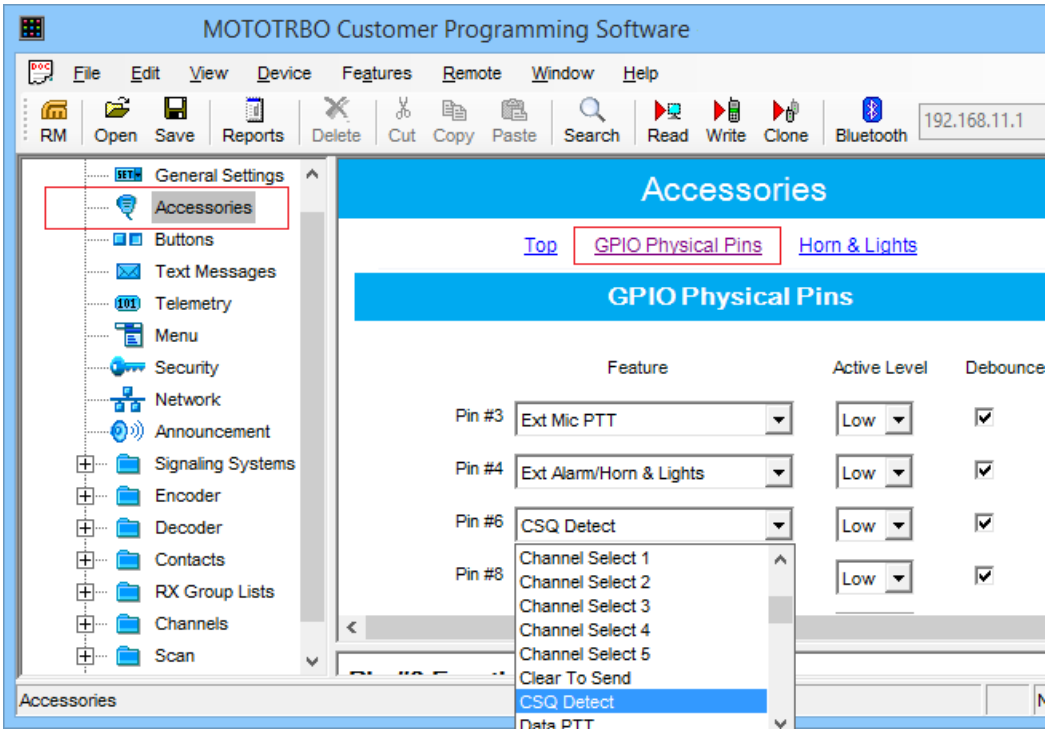

Figure 19: Configuring the GPIO pins of the MOTOTRBO radio

- For each pin, choose the function (the **Feature** setting) that matches the function of the coupled DB26 connector pin.
- Specify the low active level for all pins.
- For **CSQ Detect**, specify the high level to match the default level of the coupled pin 22 (CSQ In) on the DB26 connector.

Note: To learn the numbers of the linked GPIO pins, refer to the documentation provided for your radio.

8. Save the updated settings to the radio by clicking **Write** on the **Device** menu.
9. Close the MOTOTRBO CPS application. Power off the radio and disconnect it from the computer.

3.2.3. Installing and Connecting the Radio

After you have configured your radio, install it into the unit and connect it to all required components inside the unit.

IMPORTANT: Before installing and connecting a radio to Swift Agent A001, make sure that the radio is powered off and Swift Agent A001 is disconnected from the power supply.

To install and connect the radio:

1. Insert the radio into the slot on the front panel of the unit, orienting the radio's back panel inside the unit. Use screws of a proper size to secure the radio to the unit.
2. Do the following connections inside the unit:
   a. Connect the radio to the IP controller. Plug the service cable connectors to the IP controller (CTRL1/DB26 connector), to the RS-232 port inside the unit, and to the service jack of the radio.

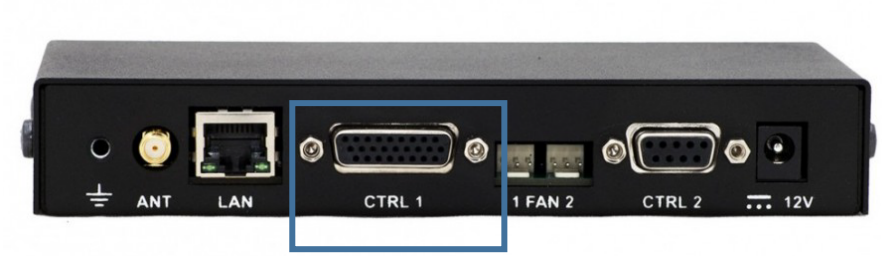

Figure 20: Figure 21: The CTRL1/DB26 connector of the IP controller

   b. Connect the radio to the extension cord that is secured to the antenna socket inside the unit.
   c. Connect the radio to the power supply. The black-and-red power cable is already connected to the integrated power supply unit.

   Note: The power cable is designed for Motorola two-way radios. To connect a radio by a different vendor, replace the power plug by a different one that fits your radio.

3. Reinstall the top cover and secure it to the unit with four screws.

3.2.4. Configuring Swift Agent A001

To configure TRBOnet Swift Agent A001, install the TRBOnet Swift Manager software on your computer. Find the distribution package with the latest version of the software at www.trbonet.com.

3.2.4.1. Updating the Firmware

A brand new TRBOnet Swift Agent A001 operates in the digital mode. To activate the analog mode, update the firmware of your TRBOnet Swift Agent A001.

To update the firmware:

1. Power up TRBOnet Swift Agent A001 using the power switch on the rear panel of the unit.
2. Launch TRBOnet Swift Manager on a computer connected to the LAN.
3. On the menu bar, select **LAN**. Then click **Tools** and select the **Allow selection of Firmware** option.

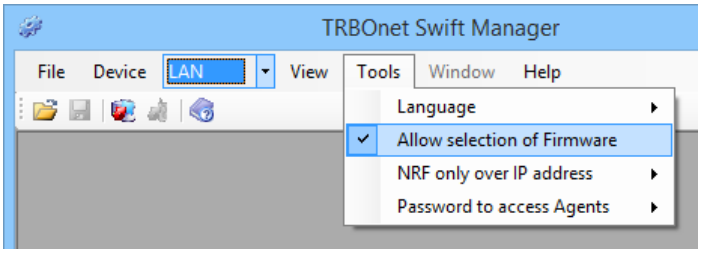

Figure 22: Enabling the firmware update

4. On the **Device** menu, click **Update**.

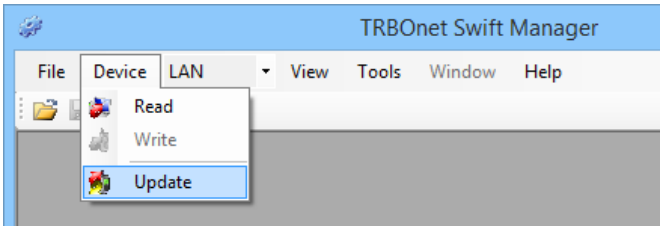

Figure 23: Updating the firmware

5. In the **Searching for devices...** window, point your Swift Agent A001 and click **OK**.

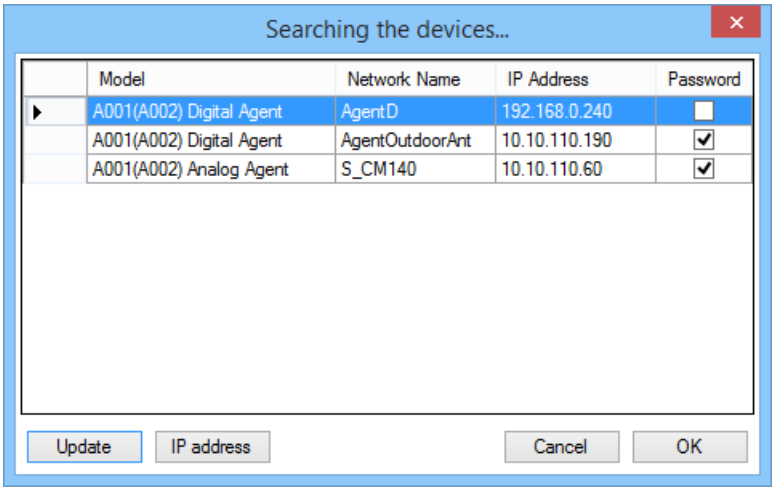

Figure 24: Choosing the device for firmware update

A brand new Swift Agent A001 appears in the window as **A001(A002) Digital Agent** with the IP address of 192.168.0.240.

Note: If you cannot find your Swift Agent A001 in the list, make sure that your computer and the device are both located in the same local area subnetwork. If not,

consider changing the network settings of your computer as described in section *3.1.5.1. Changing TCP/IP Settings (page 17)*.

6. In the **Select Firmware** popup window, point the **A001(A002) Analog Agent** firmware and click **OK**.

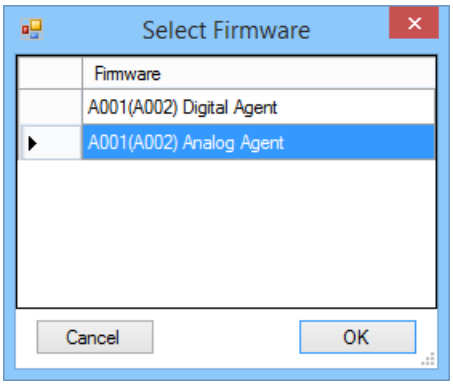

Figure 25: Selecting the firmware

7. Click **OK** to close the "Downloading is complete" message box.

Note: If the firmware update fails with the "error of downloading" message, make sure that your computer and the device are both located in the same local area subnetwork. If not, consider changing the network settings of your computer as described section *3.1.5.1. Changing TCP/IP Settings (page 17)*.

3.2.4.2. Configuring the Network Settings

Configure your Swift Agent A001 for operation in the required IP network.

To update the network settings of Swift Agent A001:

1. Launch TRBOnet Swift Manager on a computer connected to the LAN.
2. On the **Device** menu, click **Read**.
3. In the **Searching the devices...** window, point your Swift Agent A001. Click **OK**.
4. In the left pane, click **Network settings**.

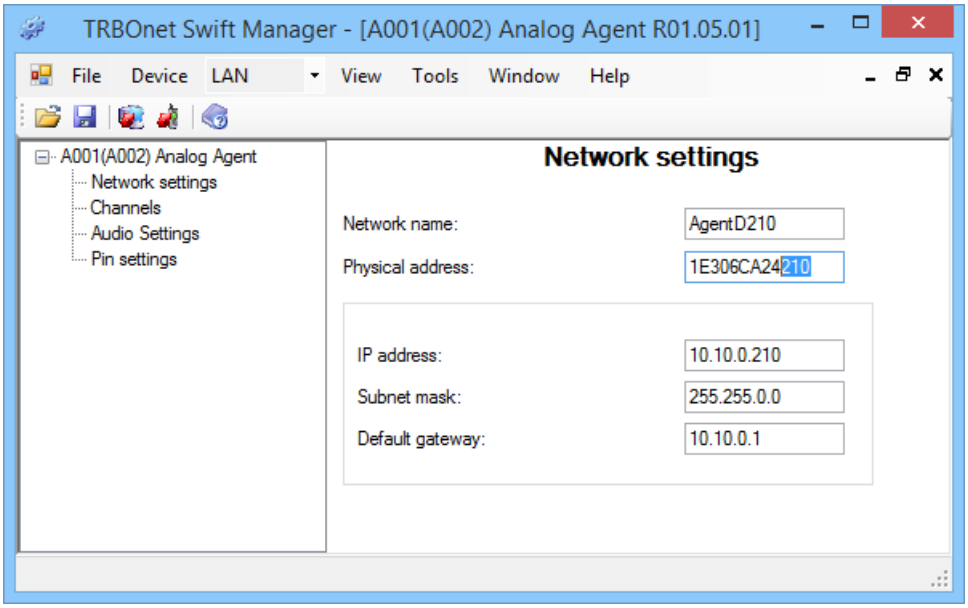

Figure 26: Updating the network settings of Swift Agent A001

5. In the right pane, type the required network settings of your Swift Agent A001.

Note: If the specified IP network includes multiple instances of Swift Agent A001, make sure to update the default MAC address in the **Physical address** field.

6. On the **Device** menu, click **Write**.
7. If you changed the network settings of your computer as described in section *3.1.5.1. Changing TCP/IP Settings (page 17)*, roll back the changes.