DR-Ready modem
User manual

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Code No.: DC68-00000A_EN

Safety information

WARNING

The DR-Ready modem only works for the following Samsung models. Since the modem can only be installed in the following models, please confirm that your product is one of the following models.

• Refrigerator: RF4289HARS, RSG309AARS
• Washer/Dryer: WF461ASP/XAA / DV431ASP/XAA
• Dishwasher: DMT-611

WHEN INSTALLING YOUR DR-READY MODEM

Do not install the modem on an unstable surface.

• If the product falls, it may result in injury or damage to property.

Do not install the modem near a heater, volatile substance (oil, etc.) or inflammable material.

• This may result in electric shock or fire.

Do not install the modem in a humid or dusty location, a location exposed to direct sunlight water (rain drops, etc.), or a location where gas may leak.

• This may result in electric shock or fire.

To reinstall the modem, contact the service center.

WHEN USING YOUR DR-READY MODEM

Do not connect the DR-Ready modem to an incompatible product.

• This may result in a problem or product malfunction.

If the modem generates a strange sound, smell or smoke, remove the modem from the product immediately, disconnect the LAN cable and contact the service center.

• Failing to do so may result in electric shock or fire.

If the modem becomes flooded, immediately remove the modem from the product, disconnect the LAN cable and contact the service center.

• This may result in electric shock or fire.

If water or a foreign object enters the modem, immediately remove the modem from the product (refrigerator, washer or dishwasher), disconnect the LAN cable and contact the service center.

• Failing to do so may result in electric shock or fire.

Do not touch the modem or LAN cable with wet hands.

• This may result in electric shock, fire or injury.

Do not intentionally apply excessive force to the modem.

• This may result in a problem with or damage to the product.

Do not disassemble, repair or modify the modem yourself.

• This may result in electric shock, fire, damage to the product or injury.

Do not step on the modem or place an object (laundry, lighted candle, lighted cigarette, dish, chemical, metal object, etc.) on the modem.

• This may result in a problem with or damage to the product.
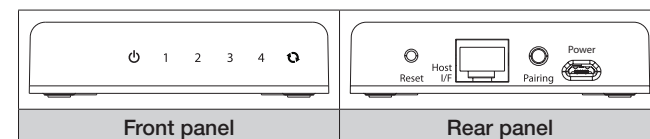
Do not use a sharp object with the modem.

• This may result in a problem with or damage to the product.
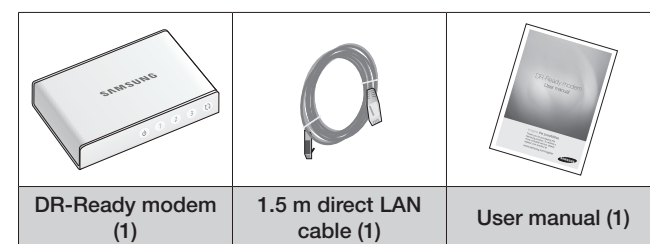
CERTIFICATION

• **FCC:** A3L-DRMODEMZ1
• **ZigBee:** ZIG11004ZSE26067-24

Setting up your DR-Ready modem

CHECKING THE PARTS

Front panel	Rear panel

Packaging contents

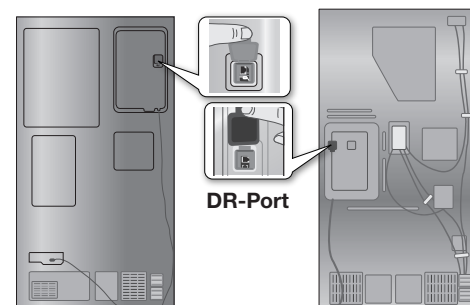| DR-Ready modem (1)	1.5 m direct LAN cable (1)	User manual (1)

Since there is a magnet at the bottom of the modem, you can easily fix it to the metal part of the product.

INSTALLING YOUR DR-READY MODEM IN YOUR REFRIGERATOR

DR-Port

1. Enter the MAC and PIN numbers on the label attached to the bottom of the modem into your DRC. (For the procedures to enter the MAC and PIN numbers, refer to the DRC user manual.)
2. Open the rubber cover of the DR-port at the back of your refrigerator and connect the LAN cable supplied with the modem to the DR-port.

   For the exact position of the DR-port, refer to the user manual for the corresponding refrigerator.
3. Close the cover.
4. Connect the other end of the direct LAN cable to the Host I/F port of the modem.
5. Check the connection. (Refer to the "Confirming the connection" section.)
6. Attach the modem to the top or side of the refrigerator.

INSTALLING YOUR DR-READY MODEM IN YOUR WASHER OR DRYER

DR-Port

1. Enter the MAC and PIN numbers on the label attached to the bottom of the modem into your DRC. (For the procedures to enter the MAC and PIN numbers, refer to the DRC user manual.)
2. Open the rubber cover of the DR-port at the back of your washer or dryer and connect the LAN cable supplied with the modem to the DR-port.

   For the exact position of the DR-port, refer to the user manual for the corresponding washer or dryer.
3. Close the cover.
4. Connect the other end of the direct LAN cable to the Host I/F port of the modem.
5. Check the connection. (Refer to the "Confirming the connection" section.)
6. Attach the modem to the top or side of the washer or dryer.

INSTALLING YOUR DR-READY MODEM IN YOUR DISHWASHER
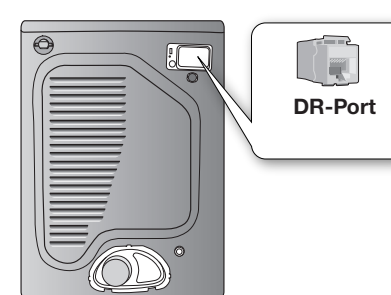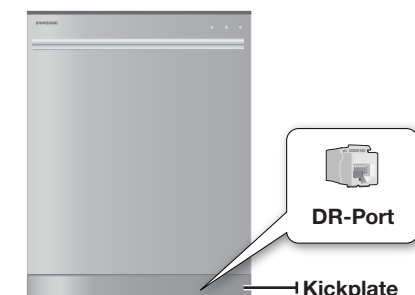

DR-Port

Kickplate

1. Enter the MAC and PIN numbers on the label attached to the bottom of the modem into your DRC. (For the procedures to enter the MAC and PIN numbers, refer to the DRC user manual.)
2. Remove the kickplate at the bottom of your dishwasher.
3. Open the rubber cover of the DR-port at the bottom of your dishwasher and connect the LAN cable supplied with the modem to the DR-port.

   For the exact position of the DR-port, refer to the user manual for the corresponding dishwasher.
4. Close the cover.
5. Connect the other end of the direct LAN cable to the Host I/F port of the modem.
6. Check the connection. (Refer to the "Confirming the connection" section.)
7. Attach the modem to the bottom of the dishwasher and install the kickplate.

CONFIRMING THE CONNECTION

1. Turn on the power of the product (refrigerator, washer, dryer or dishwasher) where the modem has been installed.
2. Connect the direct LAN cable to the modem's Host I/F port. The **Power LED** of the modem is lit.

3. The **Pairing LED** of the modem blinks at 0.5 second intervals for up to 10 seconds while attempting to connect to the DRC.

✎ If the auto connection process has failed, set the DRC to allow connections and press the modem **Pairing** button to connect them manually. When it attempts to connect, the **Pairing LED** starts blinking at a 0.5 second interval and then blinks at a 1 second interval for up to 25 seconds. (For the procedures to set the DRC to allow connections, refer to the DRC user manual.)

4. When the connection is established, the **Pairing LED** is lit.
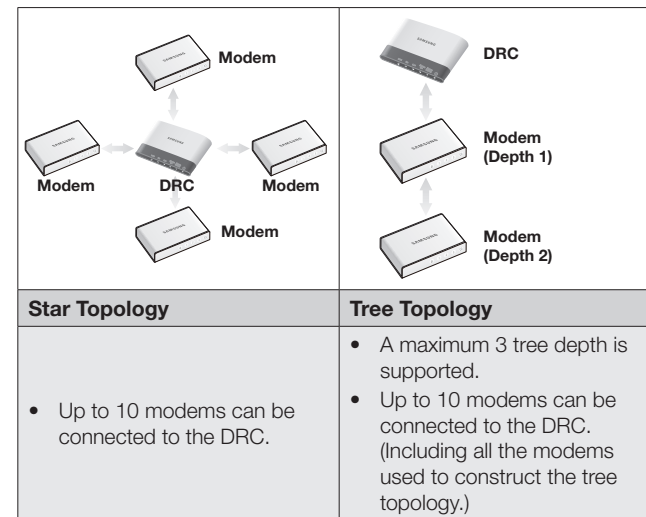
✎ While the DRC is transmitting the DR level, any one of the Level 1, 2, 3 and 4 LEDs can be turned on after the connection.

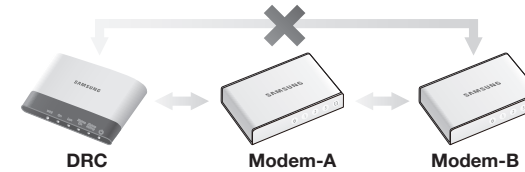5. If you cannot make a connection, contact the service center.

CONNECTING MULTIPLE MODEMS

The ability of the DR-Ready modem to communicate may be impaired depending on the operating environment (distance, obstacles, interference, etc.). If the communication quality is insufficient, you can solve the problem by connecting more than one DR-Ready modem or connecting a specialized modem.

Star Topology	Tree Topology
• Up to 10 modems can be connected to the DRC.	• A maximum 3 tree depth is supported. • Up to 10 modems can be connected to the DRC. (Including all the modems used to construct the tree topology.)

Connecting DR-Ready modems
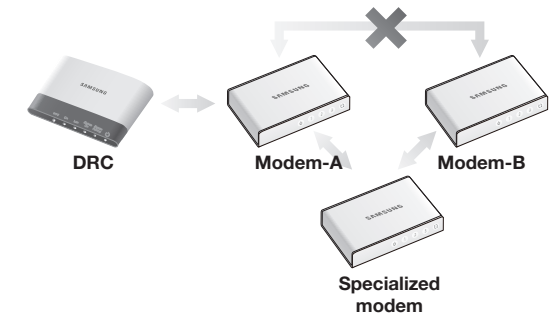
The following is the way to communicate with the DRC via a modem that is installed in another product (refrigerator, washer, dryer or dishwasher).

- **Modem-A:** An existing DR-Ready modem that is installed in another product.
- **Modem-B:** The DR-Ready modem that is installed in the product you want to use.

1. Enter the MAC and PIN numbers of Modem-B into the DRC.
2. Connect Modem-B to the product you want to use.
3. Press the **Pairing** button of Modem-A. The **Pairing LED** blinks at 1 second intervals.
4. Press the **Pairing** button of Modem-B. The **Pairing LED** blinks at 0.5 second intervals and Modem-B attempts to connect with Modem-A.
5. When Modem-B is connected with Modem-A, the **Pairing LED** of Modem-B is lit.
6. When the DRC is transmitting the DR level, the same DR level as that of Modem-A is displayed on Modem-B.
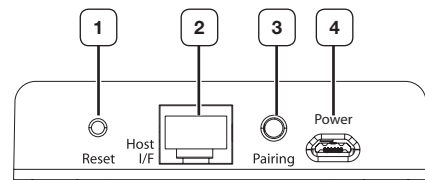
Using a specialized modem

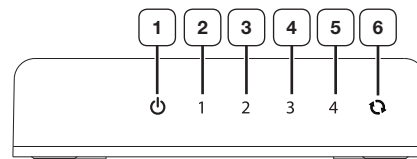The following is the way to communicate with the DRC via a specialized modem.

✎ You have to purchase the specialized modem additionally.

1. Enter the MAC and PIN numbers of the DR-Ready modem into the DRC.
2. Connect the DR-Ready modem to the product you want to use.
3. Supply power to the specialized modem using the Samsung adapter (ATADU43KBK).
4. Press the **Pairing** button of the specialized modem. The **Pairing LED** blinks at 1 second intervals.
5. Press the **Pairing** button of the DR-Ready modem. The **Pairing LED** blinks at 0.5 second intervals and the DR-Ready modem attempts to connect with the specialized modem.
6. If the DR-Ready modem is connected to the specialized modem, the **Pairing LED** of the DR-Ready modem is lit.

USING THE REAR PANEL

①	**Reset button**	Press this button to reset the modem to the factory default settings.
②	**Host I/F port**	This port is used to connect to a product with the direct LAN cable.
③	**Pairing button**	Press this button to make or remove a connection to the DRC or gateway.
④	**Power terminal**	This is the port to connect an adapter when using the modem by itself. ✎ Use only an ATADU32KBK adapter.

CHECKING THE LED

①	⏻	Power LED (Green, ON/OFF)
②	1	Demand Response Level1 Indication LED (Green, ON/OFF)
③	2	Demand Response Level2 Indication LED (Green, ON/OFF)
④	3	Demand Response Level3 Indication LED (Green, ON/OFF)
⑤	4	Demand Response Level4 Indication LED (Green, ON/OFF)
⑥		Chip LED (Green) • ON: When the modem is connected to the DRC or gateway. • Blinking at a 1 second interval: When the modem is waiting to Pair or is exchanging the security key. • Blinking at 0.5 second intervals: When the modem is attempting to pair. • OFF: When the modem is not connected to the DRC or gateway.

Troubleshooting

TROUBLESHOOTING

Problem	Solution
The modem is not turned on.	• Check if the product is connected to the power source. • Check if the DR-Ready modem is properly connected to the product with the direct LAN cable. • In the case of a specialized modem, check if the adapter is connected.
The Pairing LED is turned off or all the Level 1, 2, 3 and 4 LEDs are turned on.	• Check if the DRC in your house is working properly. • Check that the DRC is turned on. • Check if the modem's MAC and PIN numbers have been entered into the DRC correctly. • Set the DRC to allow connections and press the modem's Pairing button to connect them manually. (For the procedures to set the DRC to allow connections, refer to the DRC user manual.)
Both Level 1 and 2 LEDs are turned on.	• Check if the DRC in your house is working properly. • Check that the DRC is turned on. • Check if the modem's MAC and PIN numbers have been entered into the DRC correctly. • Set the DRC to allow connections and press the modem's Pairing button to connect them manually. (For the procedures to set the DRC to allow connections, refer to the DRC user manual.)

Appendix

SPECIFICATION

Feature		Detailed description
Antenna type		Chip antenna
Operation Voltage		5V DC ±10% or 3.3V DC±10%
Power Supply from Host		150mA @ 5V DC 150mA @ 3.3V DC
Interface		Host I/F, Power
LED	Power	• ON : Power is on • OFF : Power is off
	Demand Response Level Indicator	Level1 ~ Level4
	Pairing	• ON : as paired • Blinking : hand shaking • OFF : not paired
Button		TX/RX pairing Reset
Dimension		80 x 55 x 20 mm
ZigBee		• Compatible with IEEE802.15.4 standard to provide wireless 250Kbps data rate • Operation at 2.4GHz frequency band to meet worldwide regulations • Compliant with SEP1.0