Wave ISM
System Recovery
Guide

R e v i s i o n   H i s t o r y

Release	Date	Documentation Changes	Page No.
2.0 SP1	04/11	Updated version number on cover. No content changes in this version.	---
2.0	09/10	Add instructions on how to update the image on the Wave System Recovery USB Flash Drive.	2-2
		Removed Appendix A, "Software License Agreement". This information is now covered in Appendix C in the *Wave Administrator Guide*.	---
1.5 SP2	04/09	No changes to manual content in this version.	---
1.5 SP1	02/09	No changes to manual content in this version.	---
1.5	01/09	The Wave IP500 is now supported.	---
	11/08	Revised the display lights for installing the DVD.	2-5
1.0 SP2	1/08	No changes to manual content in this version.	---
1.0 SP1	12/07	Added Revision History table to track documentation changes.	this page
1.0	10/07	Initial Release	---

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Introduction

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Overview

This document describes how to recover your Wave Server (IP 500 or IP 2500) and restore it to its original factory settings. There are two system recovery methods available—both methods restore the same settings. The only difference between the two methods is the device connected to the Wave Server:

• Wave System Recovery DVD

• Wave System Recovery USB Flash Drive

Caution: The Wave System Recovery DVD and USB Flash Drive are intended only for installing a clean image of Wave on the Wave Server. Do not attempt to install them on any other hardware, including but not limited to desktop computers, server systems, and laptop or notebook computers.

This document contains references to the following Wave manuals:

• Wave Global Administrator Guide

• Wave Server Hardware Reference Guide

• Wave Server Installation Guide

When to recover your system

Warning: Recovering your system according to the instructions in this guide overwrites all existing information on your Wave Server's hard drive with a clean image of Wave. Recovering your system should only be performed for emergency recovery in order to restore your system to the factory default settings, for example, in the following conditions:

• To recover after a hard drive or operating system failure.

• To start from scratch with an entirely clean system.

• Following specific instructions from technical support.

Ensuring that you have a system backup before recovering

The best practice is to perform complete backups of your Wave database and voice files on a regular basis, so that in the event that you must recover your system after an emergency, you will be able to make your system fully functional as quickly as possible. See "Backing up your system configuration" in Chapter 15 of the *Wave Global Administrator Guide* for details.

After recovering your system

Additional tasks required after system recovery are listed on page 2-7.

Requirements

System Recovery USB Flash Drive requirements

• The Wave System Recovery USB Flash Drive (part number VW-IP2500-USB), separately orderable from your Vertical provider.

System Recovery DVD requirements

• The Wave System Recovery DVD, included with your Wave Server.

• A separately-purchased USB-connected DVD drive. The following DVD drives have been certified for use with the Wave Server. Other DVD drives may also work, but only these models have been certified so far.

  - Buslink RWD5216-U2   - Kanguru U2-DVDRW-16D
  - Iomega CDDVD523216EC3   - Memorex Model # MRX-525GE

Note: Using a USB hub to connect the DVD drive is not supported.

Recovering Your System

CHAPTER CONTENTS

Overview

Recovering your system according to the steps in this chapter loads the installation program, formats the Wave Server, copies files to the Wave Server, and completes the installation process.

Do one of the following to recover your system:

• Use the Wave System Recovery USB Flash Drive (preferred method). See the next section.

• Use the Wave System Recovery DVD. See page 2-4.

Using the Wave System Recovery USB Flash Drive

Before recovering your system using your Wave System Recovery USB Flash Drive, make sure that the Flash Drive contains the Wave ISM IMG file that matches the Wave ISM version currently installed on your Wave Server. (Your Flash Drive contains the Wave ISM IMG file current at the time that you first obtained it. Since you may have applied Service Pack updates and HotFixes to your Wave Server since that time, you want to recover to the currently-installed version. If your Flash Drive is outdated, you can update the image on it as described on page 2-2.)

This section describes the following:

- Verifying the current version on your Wave System Recovery USB Flash Drive. See page 2-2.

- Updating the image on your Wave System Recovery USB Flash Drive. See page 2-2.

- Recovering from the Wave System Recovery USB Flash Drive. See page 2-3.

Verifying the current version on your Wave System Recovery USB Flash Drive

Insert the Flash Drive into a USB port on a PC other than the Wave Server, and verify the IMG filename using Windows Explorer. The file is located in the Image folder.

Updating the image on your Wave System Recovery USB Flash Drive

You can update your Flash Drive by downloading a newer version of Wave ISM from VConnect.

1. On VConnect, choose **Products > Wave IP** from the navigation bar.

2. In the Product Resources pane, click **Software Downloads**.

3. Select the USB Recovery Image entry and then click **Save**.

   Note: System recovery IMG files are large files and it is recommended you download to an external drive on a PC other than the Wave Server.

4. Follow the on-screen instructions to download the file.

5. Insert the Flash Drive into a USB port on a PC other than the Wave Server, and replace the IMG file with the one that you downloaded from VConnect.

Recovering from the Wave System Recovery USB Flash Drive

1. Turn the Wave Server off. To do so, press and hold the red button on the front of the Server.

2. When you observe the following pattern on the LEDs on the front of the Wave Server, release the red button:

Status	LED1	LED2	LED3	LED4
Shutdown button press detected. System shutdown initiated.	**Green**	**Blinking red** / **solid green**	**Blinking green** / **blinking red**	**Blinking green**

System shutdown begins, and when complete, the Wave Server powers itself off.

3. Insert the System Recovery USB Flash Drive directly into USB 2 port on the front of the Wave Server. Note the following:

   • On a Wave IP 2500, the USB 2 port is the bottom USB port.

   • On a Wave IP 500, the USB 2 port is the right-most USB port.

4. Restart the Wave Server. To do so, press the red button on the Wave Server faceplate.

5. After about 10 minutes, check the status LEDs on the front of the Wave Server:

   • If system recovery was successful, the following alternating pattern repeats every 30 seconds:

Status	LED1	LED2	LED3	LED4
Normal firmware operation.	**Green**	**Blinking red** / **solid green**	**Blinking green**	**Blinking green**

Go to the next step.

6. After about 10 minutes, check the status LEDS on the front of the ISC1:

   • If system recovery was successful, the following alternating pattern repeats every 30 seconds:

System Status LEDs 1-4				Board LEDs 1-2	
off	**Green**	**Green**	**Green**	off	off
off	off	off	off	off	**Green**

Go to the next step.

- If system recovery was not successful, the following alternating pattern repeats every 15 seconds:

System Status LEDs 1-4				Board LEDs 1-2	
off	**Red**	**Red**	**Red**	off	off
off	off	off	off	**Red**	off

If system recovery was not successful, retry starting with step 1. If the problem persists, contact your Wave Technical Support representative.

7. Remove the System Recovery USB Flash Drive.

8. Restart the system. To do so, use either the power switch at the back, or press the black reset button.

   Your Wave Server is now operational. Go to "Recovering a working Wave system" on page 2-7.

   Note: The next time your Wave Server is restarted, the system may reflash the ISC firmware. See Appendix E of the *Wave Server Hardware Reference Guide* for details.

Using the Wave System Recovery DVD

To recover from the Wave System Recovery DVD

1. Connect the DVD drive directly to the bottom USB2 port on the front of the Integrated Services Card (ISC1)—do not use the top USB1 port. (The ISC1 is located at the bottom right on the front of the Wave Server.)

   Note: Using a USB hub to connect the DVD drive is not supported.

2. Insert the System Recovery DVD in the DVD drive, then restart the Wave Server. To do so, shut down by either using a Remote Desktop session, or by pressing the red button on the face plate. Then turn off the PS switch on the back, wait 30 seconds, and turn the PS switch back on to restart.

3. Power off the unit by pressing the power switch on the back of the unit, wait 30 seconds, and then press it again.

4. The System Recovery DVD ejects. This action requires that you explicitly confirm that you want to install a new image (and overwrite all existing information) on your Wave Server.

5. Close the drive tray to continue. During the preceding steps, the following light patterns will display on the ISC1 status and card LEDs:

Current Status	System Status LEDs				Card LEDs	
Lamp Tests (upon power up)						
ISC1 boot loader red LED lamp test (0.5 sc)	**Red**	**Red**	**Red**	**Red**	**Red**	off
ISC1 boot loader green LED lamp test (0.5)	**Green**	**Green**	**Green**	**Green**	off	**Green**
Early boot						
ISC1 boot loader Early boot initialization and Flash verification (15 sc)	**Red**	off	off	off	off	off
ISC1 boot loader is waiting for PLD Programmer on VAM to connect (150 sc)	**Red**	**Green**	off	off	off	off
Linux started (6 sc)	**Green**	**Green**	off	off	off	off
LED Manager started (5 sc)	**Green**	off	off	off	**Red**	off
Recovery actions						
USB Flash drive progress Partitioning hard drive	off	**Red**	**Red**	**Red**	**Red**	**Green**
USB Flash drive progress Formatting hard drive	off	**Green**	**Red**	**Red**	**Red**	**Green**
USB Flash drive progress Unpacking CAB file	off	**Green**	**Green**	**Red**	**Red**	**Green**

6. After about 10 minutes, the System Recovery DVD ejects. Check the status LEDS on the front of the ISC1:

   • If system recovery was successful, the following alternating pattern repeats every half second:

System Status LEDs				Board LEDs	
off	**Green**	**Green**	**Green**	off	off
off	off	off	off	off	**Green**

   Go to the next step.

   • If system recovery was not successful, the following alternating pattern repeats every quarter second:

System Status LEDs				Board LEDs	
off	**Red**	**Red**	**Red**	off	off
off	off	off	off	**Red**	off

   Another sign that system recovery was not successful is if the System Recovery DVD has not ejected after 20 minutes. If system recovery was not successful, retry starting with step 1. If the problem persists, contact your Wave Tech Support Rep.

7. Remove the System Recovery DVD from the drive tray and close the tray.

8. Restart the Wave Server. To do so, power off the unit by pressing the power switch on the back of the unit, wait 30 seconds, and then press it again.

   Depending on the components that are installed, the Wave Server may restart one or more times. Your Wave Server is now operational. Go to the next section.

Recovering a working Wave system

After successfully recovering your system, you must do the following to fully restore your working system. The referenced manuals are available on the Documentation CD included with your Vertical Wave system.

- Reinstall and reconfigure all Wave components that were previously present on your system according to the instructions in the *Wave Server Installation Guide*.

- Reinstall previously installed applications.

- Do one of the following:

    - If you have a complete backed-up copy of your Wave database and voice files, restore it to make your system fully functional as quickly as possible. See "Restoring your system configuration" in the *Wave Global Administrator Guide*.

    - If you do not have a backed-up copy of your Wave system, you must manually reconfigure all settings and recreate all phone system components. For details, see the chapters in Part 1, "Initial Configuration and Administration" in the *Wave Global Administrator Guide*

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