

PR-4 System Diagnostic & Maintenance Manual

Version 1.0

Official Service Documentation

Introduction

Welcome to the PR-4 Diagnostic and Troubleshooting Manual. Professional recording environments demand reliability, and this guide is your primary resource for identifying and resolving device faults.

The onboard diagnostic system categorizes system alerts into two distinct divisions:

- **E-Codes (Critical Errors):** Hardware malfunctions, initialization failures, or software bugs that disrupt system operation. These require immediate intervention, up to and including component replacement.
- **W-Codes (Operational Warnings):** Environmental, storage, or operational notifications designed to protect the hardware and prevent data loss.

SECTION 1: CRITICAL SYSTEM ERRORS (E~CODES)

These errors indicate a fundamental breakdown in hardware or software systems requiring immediate diagnostic attention.

Processor & Memory Faults

Error Code	Severity	Root Cause / Triggers	Response Measures
E1: Main Chip & Communication Fault	High	Main chip system ECC fault, ECC anomaly, master-node communication error, or internal file system/configuration error. Primary/secondary CPU or FLASH memory damage.	1. Restart the device. 2. If step 1 has no effect users need to return the product for repair.
E9: SDRAM Initialization Failed	High	SDRAM chip may be damaged, or the peripheral circuitry has failed.	1. Restart the device. 2. If step 1 has no effect users need to return the product for repair.

Audio Processing Hardware Failures

Error Code	Severity	Root Cause / Triggers	Response Measures
E2 & E3: Input Channel ADC Failure	High	Failure in Input channel 1/2 (E2) or 3/4 (E3). ADC chip may be damaged.	1. Restart the device. 2. If step 1 has no effect users need to return the product for repair.
E4 & E5: Input Channel AES Chip Failure	High	Failure in Input channel 1/2 (E4) or 3/4 (E5). The input decoder chip may be damaged.	1. Restart the device. 2. If step 1 has no effect users need to return the product for repair.

Error Code	Severity	Root Cause / Triggers	Response Measures
E6: Output DAC Chip Failure	High	Output chip may be damaged.	1. Restart the device. 2. If step 1 has no effect users need to return the product for repair.
E7: Headphone Amplifier Failure	Middle	Headphone amplifier hardware damage.	1. Restart the device. 2. Replace the output board (not motherboard).
E13: Sampling Clock Errors	High	Sampling clock errors on input 1/2, 3/4, or output 3/4. Clock buffer faulty or subjected to external electrical shocks.	1. Restart the device. 2. If step 1 has no effect users need to return the product for repair.

Storage & Media Initialization Errors

Error Code	Severity	Root Cause / Triggers	Response Measures
E10: Internal SSD Failures	Low	SSD initialization failed, read/write error, mount failed, or SSD lifespan limit reached. NAND Flash chip failure.	1. Restart the device. 2. If step 1 has no effect users need to return the product for repair.
E11: SDCARD Initialization	Low	SDCARD peripheral circuitry (including level	1. Replace with a known good SD card (e.g., V30)

Error Code	Severity	Root Cause / Triggers	Response Measures
Failures		conversion chip) malfunctioning.	and restart. 2. If step 1 has no effect users need to return the product for repair.

Power, Clock, & Software Anomalies

Error Code	Severity	Root Cause / Triggers	Response Measures
E8: RTC / Temp Sensor Malfunction	Low	Internal RTC chip malfunction or dead/damaged internal lithium battery.	1. Insert Type-C cable, let charge for 5 mins, restart. 2. Replace the soft-pack battery. 3. If step 1 & 2 have no effect, users need to return the product for repair.
E12: Charging Mgmt Error	Low	Charging chip malfunction or communication error.	1. Reinsert the TYPE-C or HRS until the alarm stops.
E14: Software/Firmware Collapse	Middle	System Software BUG (heap memory failed, task stack overflow, etc.)	1. Report to after-sales service. 2. Go to the firmware page, click the button 20 times to export the error report to SSD. 3. Submit report for analysis.

SECTION 2: OPERATIONAL WARNINGS (W-CODES)

Warning codes rarely require component replacement but act as strict advisories for media limitations, temperature safety limits, and user error.

Thermal & Power Management

Warning Code	Severity	Description & Required Action
W2: Charging Temp Exceeded	Low	High temperature warning ($\geq 73^{\circ}\text{C}$). Charging must be stopped.
W3: Charging Current Limit	Low	Stop charging. If the issue persists, the power board needs replacement.
W11: High Charging Temp	Low	Risk of overheating. Ensure proper ventilation.
W14: System Temp Too High	High	Extreme temp ($\geq 80^{\circ}\text{C}$). Stop working immediately. <i>Note: Multiple alarms at room temp may indicate a dead battery instead.</i>
W15: System Temp Too Low	Low	Low temperature warning ($< -20^{\circ}\text{C}$).

Storage Speed & Capacity Issues

Warning Code	Severity	Description & Required Action
W1 & W13: SDCARD Write Slow	Low	SDCARD write speed is slow. Replace with a high-speed SD card.
W12: SSD Write Speed Slow	Middle	Check if the sampling rate is too high (192K 5CH/6CH). If frequent on standard settings, replace the motherboard.
W5: Insufficient Memory	Low	Both storage units are full. Clear space.
W7: Format SD Card Prompt	Low	Target media file system incorrect. The SD card needs to be formatted.

Operational & Audio Errors

Warning Code	Severity	Description & Required Action
W4: Recording Not Started	Low	SD/SSD was not selected as the recording

Warning Code	Severity	Description & Required Action
		destination.
W6: No Audio Recording	Low	System cannot locate an audio recording file.
W8: File Format Error	Low	Only files with sampling rates of 48K, 96K, and 192K can be played back.
W9: No Tracks Set	Low	The user did not choose to record Oni-Ooku.
W10: Mode Switching Timeout	Low	Recording/playback mode switching failed. Reboot mechanism required.