SYSTEM DIAGNOSTICS TECHNICAL GUIDE

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NaviFloor Robotics, Inc.

Document Version: 3.2

Last Updated: January 11, 2024

Classification: CONFIDENTIAL

1. INTRODUCTION AND SCOPE

1. This System Diagnostics Technical Guide ("Guide") outlines the au

2. This Guide is intended for use by certified NaviFloor technicians, au

2. PROPRIETARY NOTICE

1. This document contains proprietary and confidential information be

3. DIAGNOSTIC SYSTEM ARCHITECTURE

1. Core Diagnostic Components

- Primary Navigation Control Unit (PNCU)
- LiDAR Calibration Module
- Terrain Mapping Processor (TMP)

Surface Adaptation Control System (SACS)

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Multi-Level Navigation Interface (MLNI)

2. Diagnostic Access Protocols

a) Level 1: Basic system health monitoring

b) Level 2: Performance optimization and calibration

c) Level 3: Advanced troubleshooting and component-level diagnostic

d) Level 4: Factory reset and firmware restoration

4. DIAGNOSTIC PROCEDURES

1. System Health Assessment

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Execute NaviDiag(TM) primary health check protocol

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Verify PNCU operational parameters within specified ranges

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Confirm LiDAR sensor array calibration status

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Validate terrain mapping accuracy metrics

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Review system log files for error codes

2. Performance Optimization

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Calibrate surface detection sensors

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Adjust terrain response algorithms

Optimize path planning parameters

- Fine-tune obstacle avoidance settings

3. Error Resolution Protocols

- Error code interpretation and response procedures
- Component-level troubleshooting sequences
- System recovery procedures
- Emergency shutdown protocols

5. SAFETY PROTOCOLS

1. All diagnostic procedures must be performed in compliance with:

- ANSI/RIA R15.06-2012 Safety Requirements
- ISO 10218-1:2011 Robot Safety Standards
- NaviFloor Safety Protocol Document SP-2024-01

2. Required Safety Measures

- Establishment of safety perimeter during diagnostics
- Emergency stop system verification

Personal protective equipment requirements

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Environmental hazard assessment

6. MAINTENANCE REQUIREMENTS

1. Diagnostic Tool Maintenance

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Annual calibration of diagnostic equipment

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Software updates and patch management

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Hardware maintenance schedule

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Certification renewal requirements

2. Documentation Requirements

- Maintenance log entries
- Diagnostic report generation
- Calibration certificates
- Incident reporting procedures

7. QUALITY ASSURANCE

1. Performance Metrics

System accuracy tolerances

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Response time parameters

-

Error rate thresholds

-

Calibration standards

2. Validation Procedures

-

Test case execution requirements

-

Performance verification protocols

-

Documentation review processes

-

Quality control checkpoints

8. TECHNICAL SUPPORT

1. Support Resources

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Technical support contact information

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Online knowledge base access

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Remote diagnostic assistance

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Emergency support procedures

9. LEGAL DISCLAIMERS

1. This Guide is provided "as is" without any warranties, express or im

2. Unauthorized modification of diagnostic procedures or system para

10. DOCUMENT CONTROL

1. Version History

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Version 3.2 (Current) - January 11, 2024

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Version 3.1 - October 15, 2023

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Version 3.0 - July 1, 2023

2. Distribution Control

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authorized personnel only.

APPROVAL AND AUTHORIZATION

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Date: January 11, 2024

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Date: January 11, 2024