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# CLArinet

## User Guide

### Appendix 1: Power Stage Diagnostics



July 2003

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## ***Important Notice***

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Product Catalog Number:	<p style="text-align: right;">┌ Maximum voltage (VDC)</p> <p style="text-align: center;"><b>CLA-Pxx/yyy</b></p> <p>blank = Standard └┘ Continuous current (A)</p> <p>P = Plus</p> <p>PP = Plus Plus</p>
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# Measuring the Clarinet Power Stage Output

## 1. Safety Information

In order to achieve the optimum, safe operation of the Clarinet servo drive, it is imperative that you implement the safety procedures included in this document. This information is provided to protect you and to keep your work area safe when operating and handling the Clarinet and accompanying equipment.

Ensure that all system components are connected to earth ground. Electrical safety is provided through a low-resistance earth connection.

Only qualified personnel may install, adjust, maintain and repair the servo drive. A “qualified person” has the knowledge and authorization to perform tasks such as transporting, assembling, installing, commissioning and operating motors.

The Clarinet servo drive contains electrostatic-sensitive components that can be damaged if handled incorrectly. To prevent any electrostatic damage, avoid contact with highly insulating materials, such as plastic film and synthetic fabrics. Place the product on a conductive surface and ground yourself in order to discharge any possible static electricity build-up.

To avoid any potential hazards that may cause severe personal injury or damage to the product during operation, keep all covers and cabinet doors shut.

### 1.1 Warnings



To avoid electric arcing and hazards to personnel and electrical contacts, never connect/disconnect the servo drive while the power source is on.



Power cables can carry a high voltage, even when the motor is not in motion. Disconnect the Clarinet from all voltage sources before it is opened for servicing.



After shutting off the power and removing the power source from your equipment, wait at least 1 minute before touching or disconnecting parts of the equipment that are normally loaded with electrical charges (such as capacitors or contacts). Measuring the electrical contact points with a meter before touching the equipment is recommended.

### 1.2 Caution



The Clarinet servo drive contains hot surfaces and electrically-charged components during operation.

## 2. Diagnostic Procedure

Perform the following diagnostic procedure to determine the condition of the Clarinet power stage:

1. Turn off the power supply to the Clarinet.
2. Disconnect the power-supply wires from connector J1 (VP+ and PR).
3. Disconnect all motor wires from connector J2 (M1, M2 and M3).
4. Disconnect all other cables from the Clarinet connectors.
5. Measure the resistance between the following points:

	<b>Test Points</b>	<b>Acceptable Results</b>
1	Between PR and VP+	> 10 K $\Omega$
2	Between M1 and VP+	> 1 M $\Omega$
3	Between M2 and VP+	> 1 M $\Omega$
4	Between M3 and VP+	> 1 M $\Omega$
5	Between M1 and PR	> 1 M $\Omega$
6	Between M2 and PR	> 1 M $\Omega$
7	Between M3 and PR	> 1 M $\Omega$
8	Between M1 and M2	> 1 M $\Omega$
9	Between M1 and M3	> 1 M $\Omega$
10	Between M2 and M3	> 1 M $\Omega$

6. If any of the results are not within the acceptable range, the drive is faulty and should be replaced.