

ElectroCom

Product Support Manual

***Model HPA4
UHF High Power
Amplifier***

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1. Introduction

1.1 Document Scope

This document describes the hardware of the model HPA4 UHF High Power Amplifier.

- Section 1: non-technical overview of the product and its features
- Section 2: identifies product interfaces (i.e. connectors, power sources, etc.)
- Section 3: contains installation information
- Section 4: provides functional description of circuit operation
- Section 5: maintenance
- Section 6: identifies the specifications the product is designed to meet
- Section 7: contains warranty and service information
- Section 8: contains internal interconnections, schematic diagrams, parts lists, and component location drawings

Throughout this document, SMALL CAPITAL LETTERS are used to indicate signal names used on schematics and *Italics* are used when describing circuitry, methods, or devices which affect regulatory compliance.

1.2 Reference Material

1.2.1 ElectroCom Documents (Attached)

NUMBER	DOCUMENT NUMBER	DESCRIPTION
1	502-8800958	Schematic - High Power Amplifier HPA4
2	PL502-80059	Parts List Hi PWR AMP UHF
3	502-80185	Interface Locator Drawing
4	502-80073	Interconnection Diagram HPA4

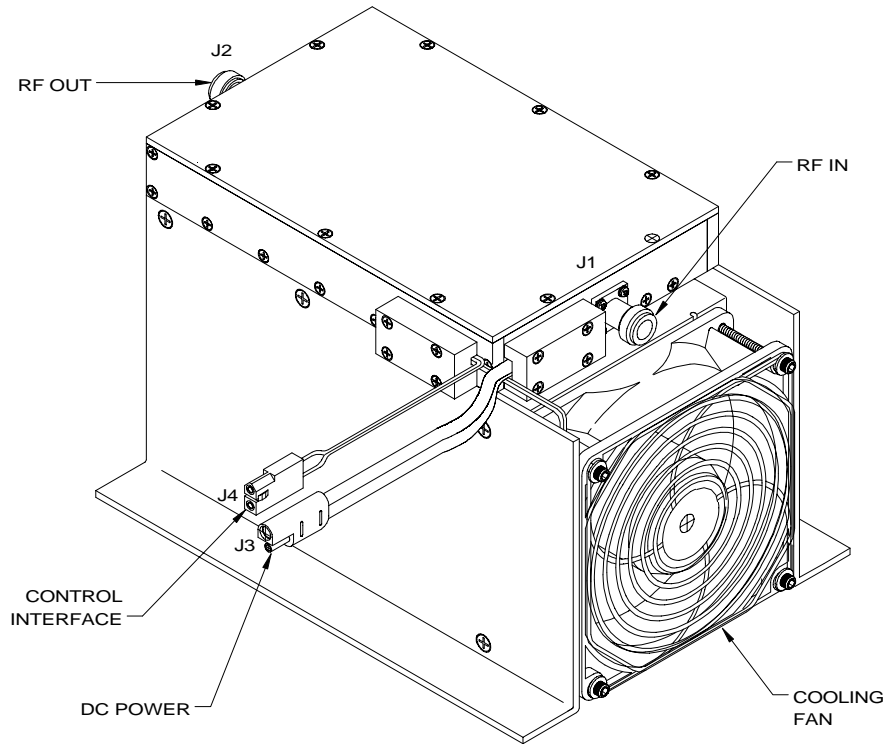
1.3 Product Description

ElectroCom's Model HPA4 UHF Amplifier is designed to amplify the RF output of ElectroCom's DR4B Base Station up to 100 Watts. The HPA4 uses a dual amplifier design to ensure graceful degradation of output power under fault conditions and enhanced reliability. The HPA4 features a three-stage thermal equilibration system, and over-voltage protection prolonging the life of the amplifier.

1.4 Product Features:

Model HPA4 High Power Amplifier Features:

- Dual Amplifier Design
- 3-Stage Thermal Equilibration
- Over-Voltage Protection
- 12 VDC operation
- Compact size, rugged construction



2. Interface Description

The HPA4 has 2 external RF ports; both are type "N" female coaxial connectors:

J1 is the RF input port

J2 is the RF output port

DC power connection to the HPA4 is accomplished via J3, a 2-conductor, quick-disconnect connector. J4 is a control / alarm cable which carries the amplifier's key signal and high-temp alarm signal.

3. Installation

3.1 Unpacking

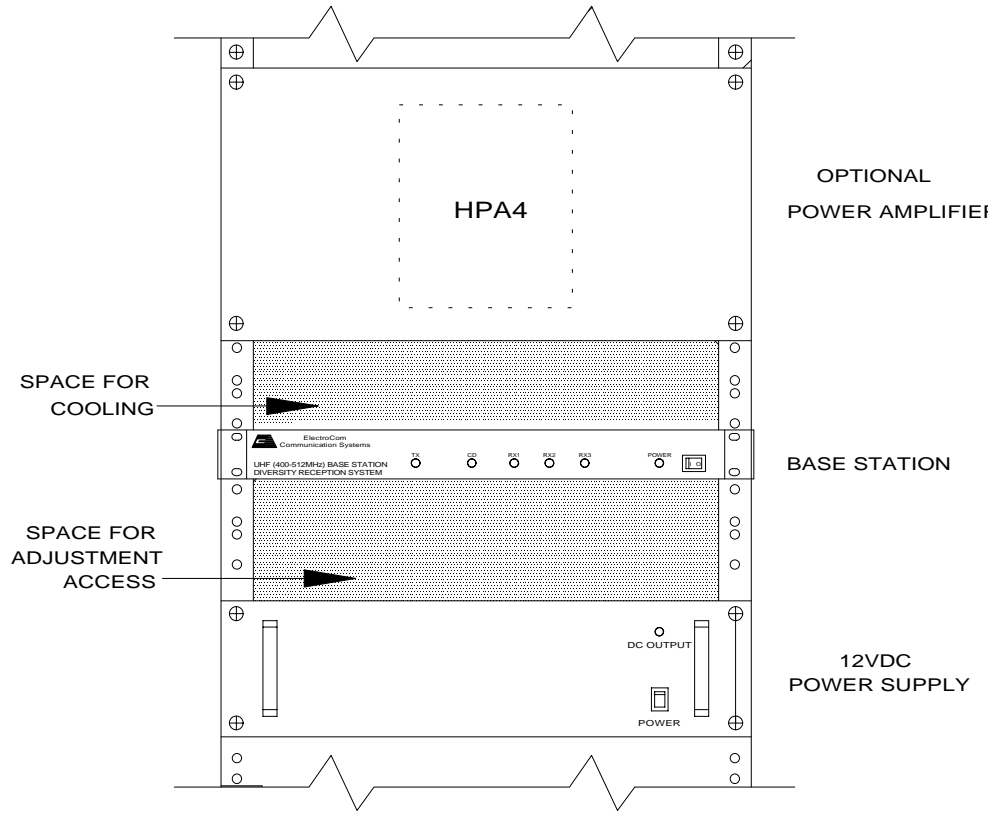
Carefully inspect the amplifier for any signs of shipping damage. If damage is suspected, file a claim immediately with the carrier and contact your dealer. If possible, keep the original shipping container for shipping the unit back for repair or for verification of damage during shipment.

3.2 Installation

Standard considerations such as air flow clearance in the vicinity of the amplifier's mounting location, and ensuring adequate space exists for the routing of RF, DC power, and control cables are of primary importance.

RF coaxial, power, and control cables should be neatly routed with service loops to provide for convenient removal for functional testing and / or maintenance purposes.

3.1.1. Typical Rack Installation



FRONT VIEW