

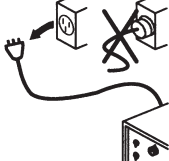


# ***XD*** *Firmware Upgrade* ***HPR130XD and HPR260XD***

**Field Service Bulletin**

***806520 - Revision 0 - December, 2009***

***Hypertherm®***

		<b>WARNING</b> <b>ELECTRIC SHOCK CAN KILL</b>
	<p><b>Disconnect electrical power before performing any maintenance. All work requiring removal of the power supply cover must be performed by a qualified technician. See the <i>Safety Section</i> of the system's Manual for more safety precautions.</b></p>	

## Introduction

### Purpose

This field service bulletin enables a trained technician to upgrade the firmware in a HPR130XD or HPR260XD power supply and in the HPR automatic or manual gas consoles.

### 228525 – Kit Contents (Auto Gas)

Part Number	Description	Qty
027338	Tool: All purpose chip extractor	1

#### PART 1 – Power supply

Part Number	Description	Qty
081170 (labeled 081169)	Firmware: HPR130XD/260XD power supply	1

#### PART 2 – Selection console and metering console

Part Number	Description	Qty
081110 (labeled 081096)	Firmware: Selection and metering consoles	2

### 228526 – Kit Contents (Manual Gas)

Part Number	Description	Qty
027338	Tool: All purpose chip extractor	1

#### PART 1 – Power supply

Part Number	Description	Qty
081170 (labeled 081169)	Firmware: HPR130/260 power supply	1

#### PART 2 – Gas console

Part Number	Description	Qty
081109 (labeled 081093)	Firmware: Manual gas console	1

### 081169 Firmware changes

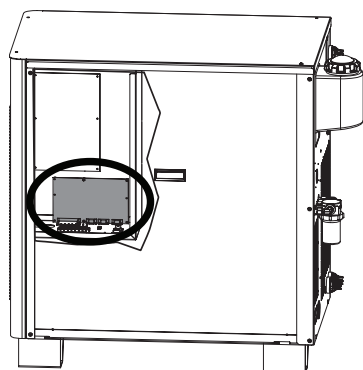
#### Revision B

- Improved O<sub>2</sub>/ O<sub>2</sub> processes
- Transformer temperature limit changed
- Added error condition. ID trace not detected

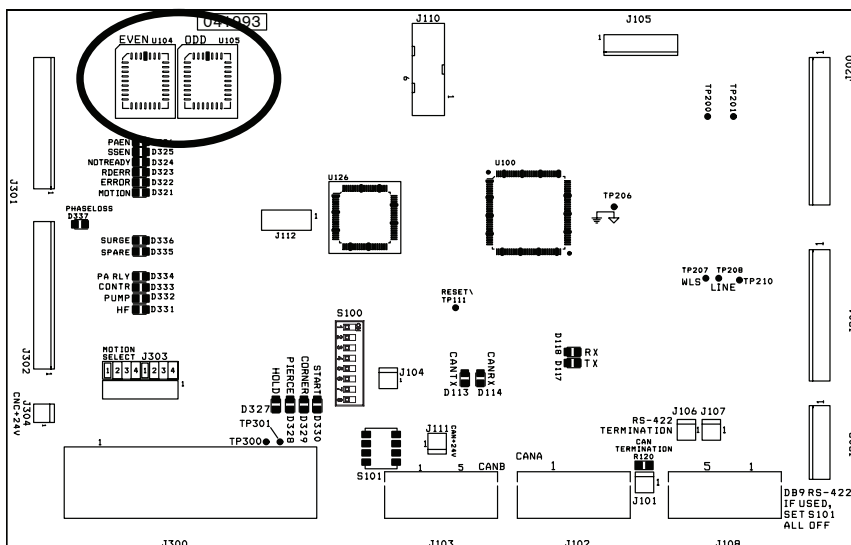
#### Revision C

- Added serial command ID 136 to improve communication

## PART 1 – HPR130 and HPR260 power supply (Auto and manual gas systems)

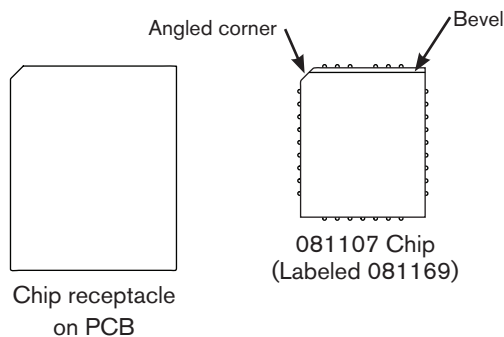


**HPR130XD and HPR260XD control board location**



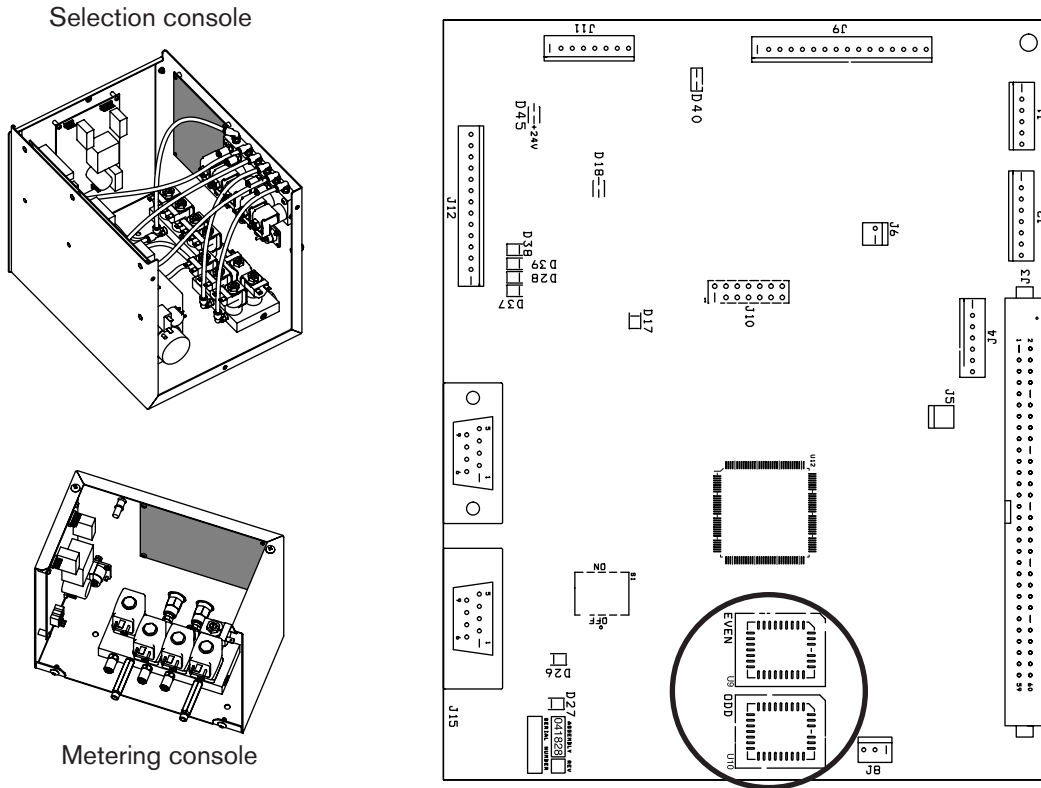
1. Turn OFF all power to the system.
2. Remove the right side cover from the power supply to access the control PCB (see figure above).
3. Remove the even (U104) and odd (U105) chips from the board using the extraction tool (027338) provided in this kit.
4. Install new chips 081170 (labeled 081169) onto the control board.

**NOTE:** Make sure the chips are oriented correctly before installation. There is a bevel on the top edge of each chip and the upper left corner is angled (see figure below).



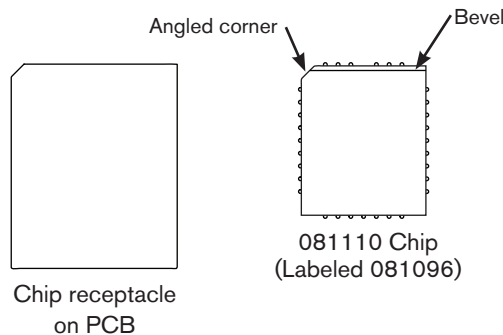
5. Replace the right side cover and turn ON the power. The system will be idle while the software code is being updated. The update process may take up to 1 minute to complete. The system may show a “watchdog interlock” error after the update. Turn the power OFF and then ON to clear the error.

## PART 2 – Selection console and Metering console



1. Turn OFF all power to the system.
2. Remove the covers from the selection console and the metering console to access the control PCB (see figure above).
3. Remove the even (U9) and odd (U10) chips from the boards using the extraction tool (027338) provided in this kit.
4. Install the new chips 081110 (labeled 081096) onto the control board.

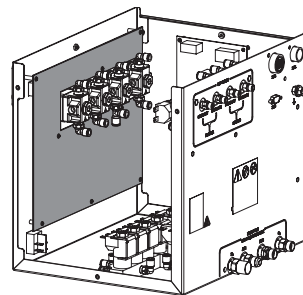
NOTE: Make sure the chips are oriented correctly before installation. There is a bevel on the top edge of each chip and the upper left corner is angled (see figure below).



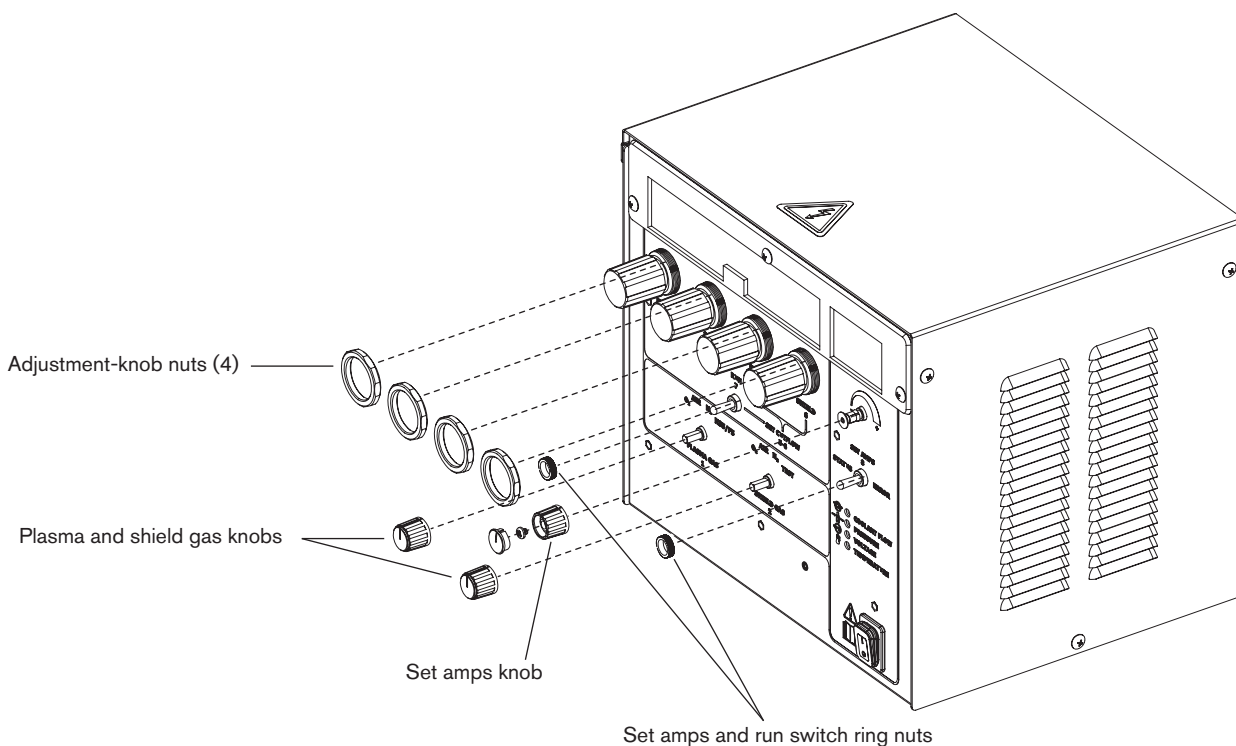
5. Replace the covers and turn ON the power. The system will be idle while the software code is being updated. The update process may take up to 1 minute to complete. The system may show a “watchdog interlock” error after the update. Turn the power OFF and then ON to clear the error.

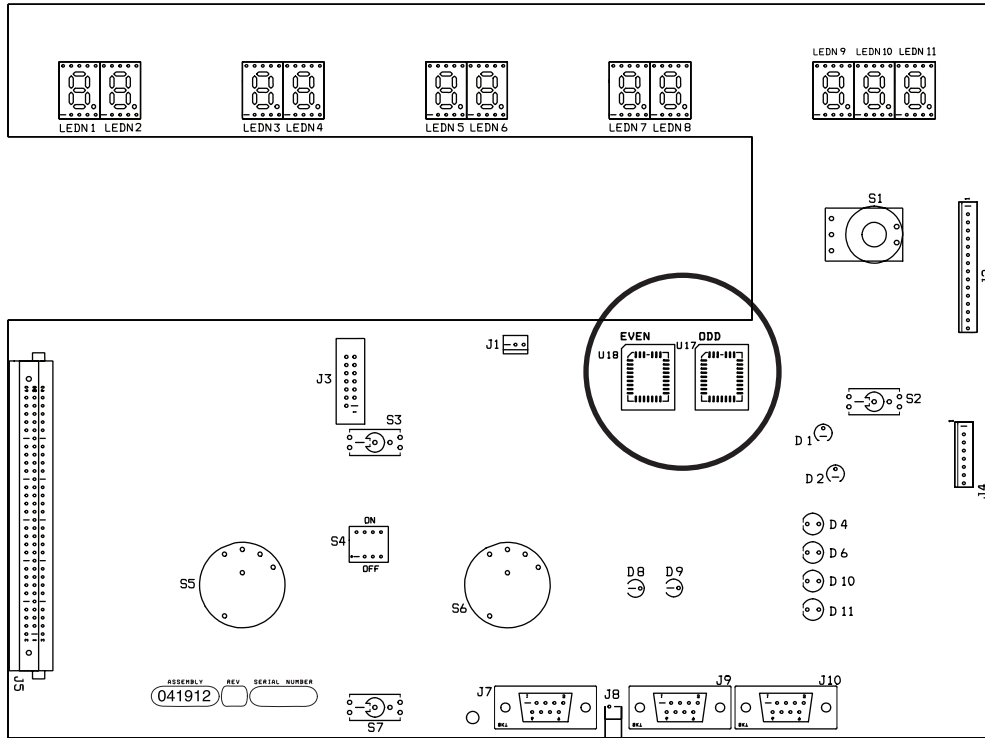
## PART 2 – Manual gas console

1. Turn OFF all power to the system.
2. Remove the top/side cover from the gas console to access the control PCB.



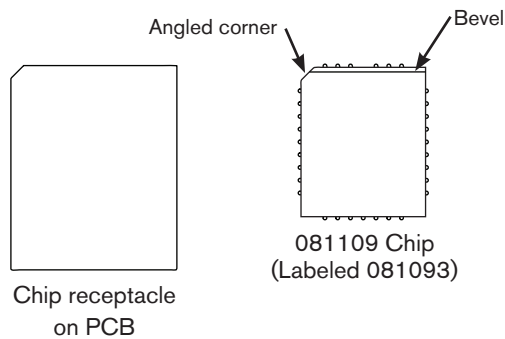
3. The PC board needs to be removed from the console to access the firmware chips.
  - 3.1 Remove the ring nuts from the SET AMPS (8) and RUN (7) toggle switches.
  - 3.2 Loosen the hex head screws (older models) on the PLASMA GAS (1), SHIELD GAS (2) and SET AMPS knobs. Remove the knobs. The hex head screw is 1/16".
    - 3.2.1 On newer gas consoles the PLASMA GAS (1) and SHIELD GAS (2) knobs can be pulled off. You must remove the cap from the SET AMPS knob and remove the screw before you can remove the knob.
  - 3.3 Remove the 4 plastic nuts from the adjustment knobs
  - 3.4 Remove all connectors from the back of the PC board.
  - 3.5 Remove 8 screws from the back of the PC board.
  - 3.6 Carefully remove the PC board. It will require some patience and careful manipulation to remove the board without damage.





3. Remove the even (U18) and odd (U17) chips from the board using the extraction tool (027338) provided in this kit.
4. Install the new chips 081109 (labeled 081093) onto the control board.

NOTE: Make sure the chips are oriented correctly before installation. There is a bevel on the top edge of each chip and the upper left corner is angled (see figure below).



5. Replace the right side cover and turn ON the power. The system will be idle while the software code is being updated. The update process may take up to 1 minute to complete. The system may show a “watchdog interlock” error after the update. Turn the power OFF and then ON to clear the error.

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# ***Hypertherm***<sup>®</sup>

**Hypertherm, Inc.**  
Hanover, NH 03755 USA  
603-643-3441 Tel

**Hypertherm (S) Pte Ltd.**  
417847, Republic of Singapore  
65 6 841 2489 Tel

**Hypertherm (Shanghai)  
Trading Co., Ltd.**  
PR China 200052  
86-21 5258 3330 /1 Tel

**Hypertherm Europe B.V.**  
4704 SE Roosendaal, Nederland  
31 165 596907 Tel

**HYPERTHERM BRASIL LTDA.**  
Guarulhos, SP - Brasil  
55 11 6409 2636 Tel

**[www.hypertherm.com](http://www.hypertherm.com)**