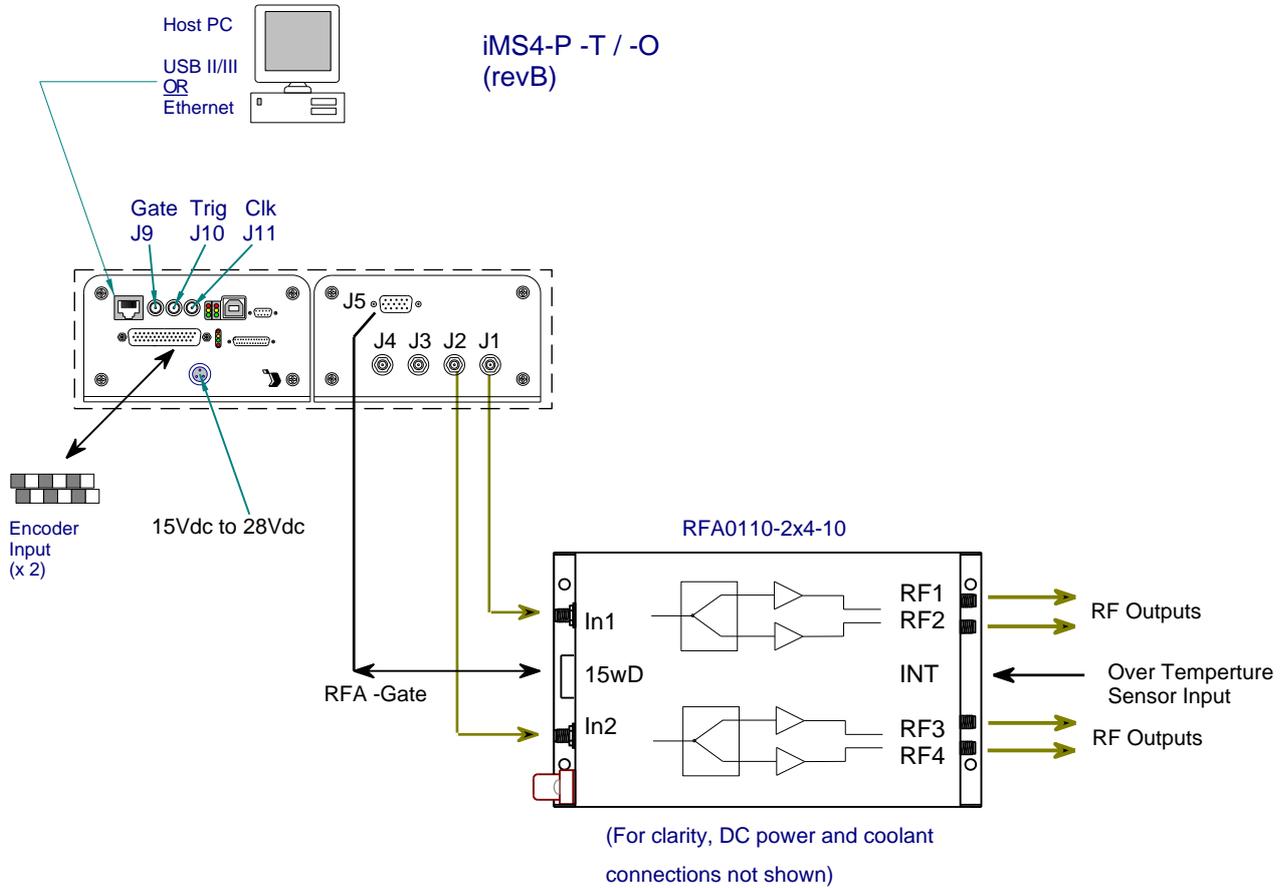


iMS4-P (revB) and RFA Connection Guide

Typical connection with RF amplifier. Single axis shown for clarity



Note: J5 connection will depend on the RF amplifier model

- **DC Power**

To ensure correct initialization when the DC supply power is turned on -

- 1: Operate both the iMS4-P- and RFA amplifier(s) from the same DC supply (+24Vdc)
OR
- 2: Apply DC power to RFA amplifier(s) before the iMS4-P-

- **Interlock**

An over-temperature Interlock lead connects between the AO device and RF amplifier. This cable has Binder-719 push connector at each end (normally closed contacts). It is supplied with the RF amplifier.

If the temperature exceeds 32degC, the thermal interlock switch in the AOD will open.



- **RF amplifier(s) Enable**

Depending on the RF amplifier model, a connection will be required from the iMS4-P- to the RF amplifier.
e.g. applies to models RFA0110-2x4 and RFA0120-2x4

A 15way HD cable connects between the iMS4-P (J5) and the D-type (CTRL) input on the amplifier.

This cable is supplied with the RF amplifier and the connectors will be labelled accordingly.



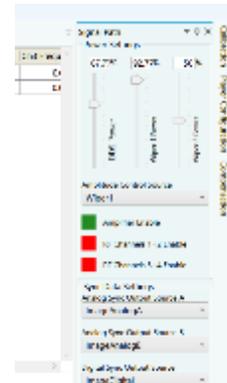
In such cases, to enable the amplifier:

- 1: A valid Gate signal must be applied onto J9 of the iMS4-P:
If J9 = POF input, Enable = High (light on)
If J9 = TTL input, Enable = High
- 2: Amplifier Enable command must be applied in the iMS4-P- control software

C++

```
// Enable RF output, GATE control (most PA models >10W)
SystemFunc RFGate(myIMS);
RFGate.EnableAmplifier(true);
std::cout << "Done \n\n*** PA's enabled ***";
```

GUI



- 3: Interlock cable is attached from the AOD to RF Amplifier (and AOD thermal interlock is closed contact = temp OK)

- **RFA0110 / RFA0120-2x4-10 amplifier LED Indicators**

- | | | |
|---|--|--|
| ✓ | 24V connected and DC power on | |
| ✗ | Interlocks not connected | |
| ✗ | Over temperature fault / Coolant failure | |
| ✓ | 24V connected and DC power on | |
| ✓ | Interlocks OK | |
| ✗ | Amplifier Enable command off | |
| ✓ | 24V connected and DC power on | |
| ✓ | Interlocks OK | |
| ✓ | Amplifier Enabled command ON | |

- **iMS4- LED indicators**

All LEDs on the iMS4-P will illuminate during initialization.

The boot sequence includes read flash, initialize peripherals, DHCP request for Ethernet (timeout after ~10sec if not connected and revert to static IP). Power up USB controller

After this period, the upper red LED's will remain illuminated and two green LED's will beat at ~1Hz rate



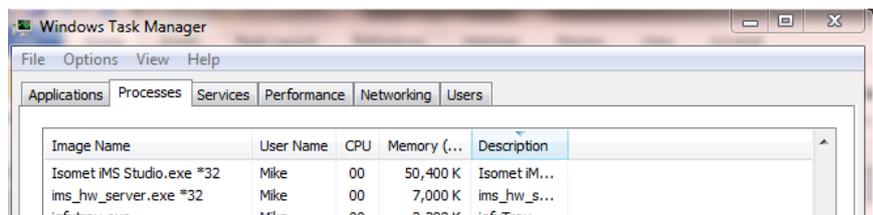
- **Communication**

It is recommended that USB or Ethernet lead is connected to the iMS4-P-T (-O) prior to power up.

Attempt software communication AFTER initialization is complete.

iMS Library versions 1.4 (and onwards) will allow Ethernet or USB connection using the Isomet GUI or Microsoft Visual Studio software.

If the GUI is not closed correctly, crashes or will not open, then please use Windows Task Manager to delete the *Isomet iMS Studio* and *ims_hw_server* processes.



Restart GUI

Ethernet:

The default static IP address for the iMS4 is 192.168.1.10.

You may need to disable other Ethernet adaptors to avoid contentions.

- **Software**

Download the latest software, SDK and Guide from the Support page:

<http://www.isomet.com/software.html>

- **Single iMS4-P with multiple amplifiers**

When a single iMS4-P is used to control TWO amplifiers, the control/diagnostics cable from J5 must be connected as shown below. The connector shells on the cable will be marked to identify the mating hardware.

