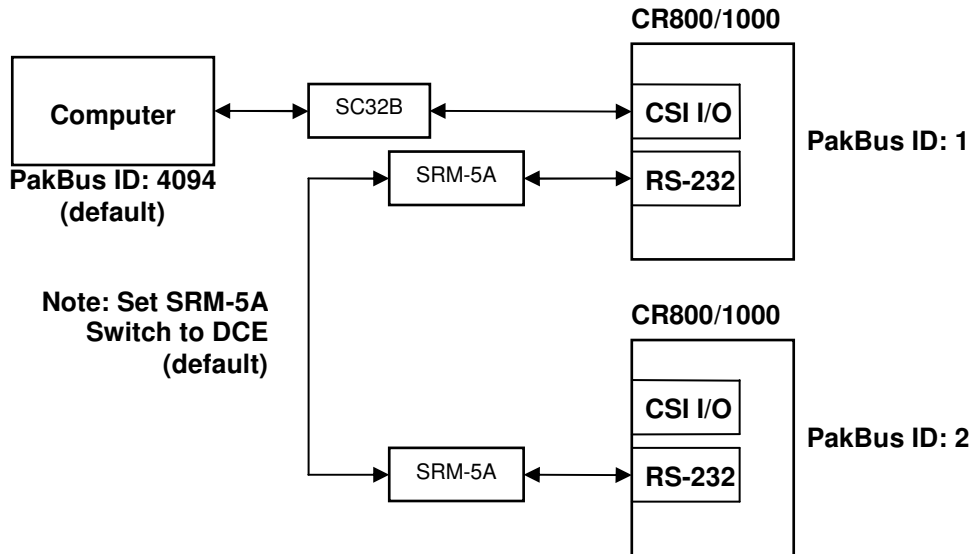


## Using the CR800/CR1000 as a Router Application Note #22

### Overview

The PakBus networking protocol provides for very flexible networking and routing between control modules. This Application Note will detail a very simple configuration where a single CR800 or CR1000 is used as a route to a CR800 or CR1000 connected using SRM-5A short-haul modems.



**Note: Use cable CAN-NDB25MDE9M between SRM-5A and MCU**

### Wiring

Connect the SRM-5A's to each other using twisted pair cabling as follows:

SRM-5A Router	Function	SRM-5A Remote
XMT+	Transmit +	RCV+
XMT-	Transmit -	RCV-
G	Ground	G
RCV+	Receive +	XMT+
RCV-	Receive -	XMT-

The SRM-5A's connect to the MCU's using the Canary Systems CAN-NDB25MDE9M Cable:

Male DB-25	Color	Function	Male DE-9
2	Green	TD (Out)	2
3	White	RD (In)	3
4	Yellow	RTS (In)	8
7	Black	Ground	5
20	Blue	DTR (In)	6

**Note: The connection between the RS-232 ports of the control modules can also be made using a standard DE-9M to DE-9M null-modem RS-232 cable.**

## MCU Configuration

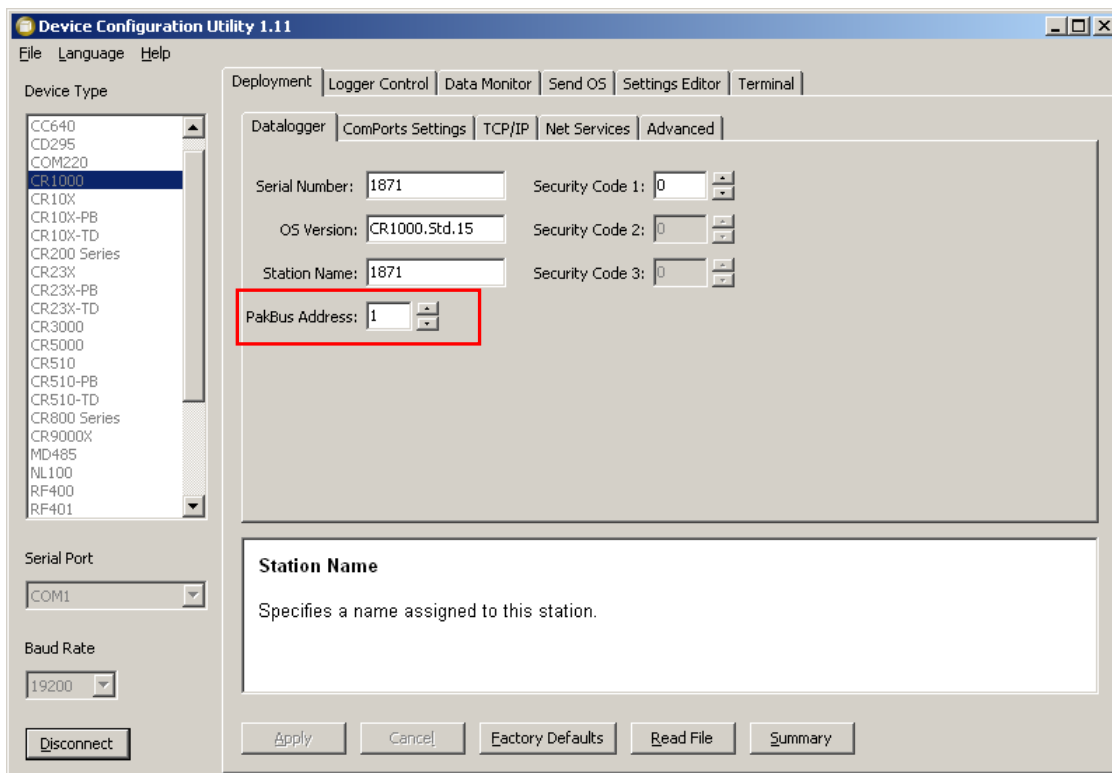
You will need to use Campbells Device Configuration software to configure the nodes to operate properly. Connect the MCU to be configured, select the **Serial Port** (and **Baud Rate** if necessary), and press Connect.

There are 5 settings to configure at the Router node:

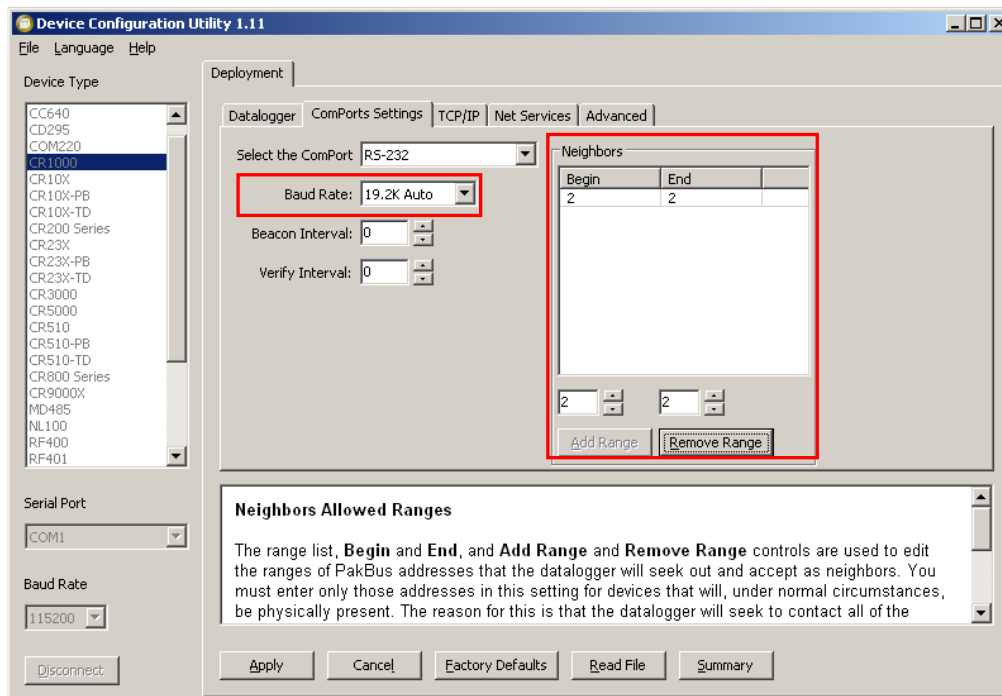
1. **Pakbus Address**
2. **RS-232 Port Baud Rate**
3. **RS-232 Neighbors**
4. **Is Router**
5. **Port always on**

See the following screenshots for details configuring each of these settings.

On the **Datalogger** tab configure the PakBus Address.

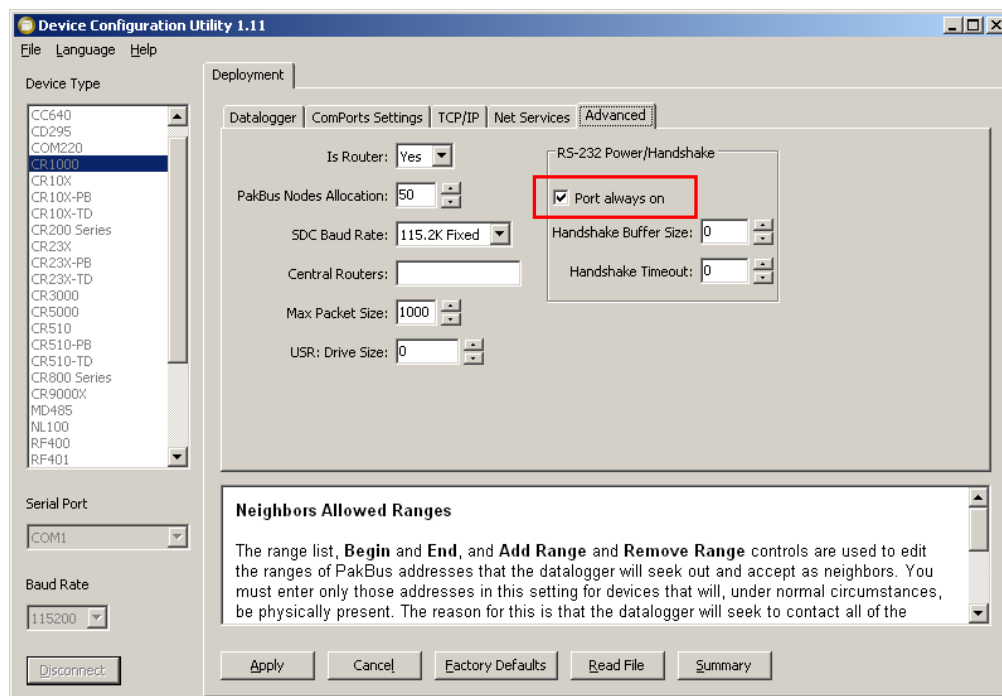


On the **ComPorts Settings** tab configure the **RS-232 port Baud Rate** and **Neighbors**.



**Note: When using a direct RS-232 connection (no SRM-5A) a higher baud rate can be used.**

On the **Advanced** tab, enable the **Is Router** configuration and check **Port always on**.



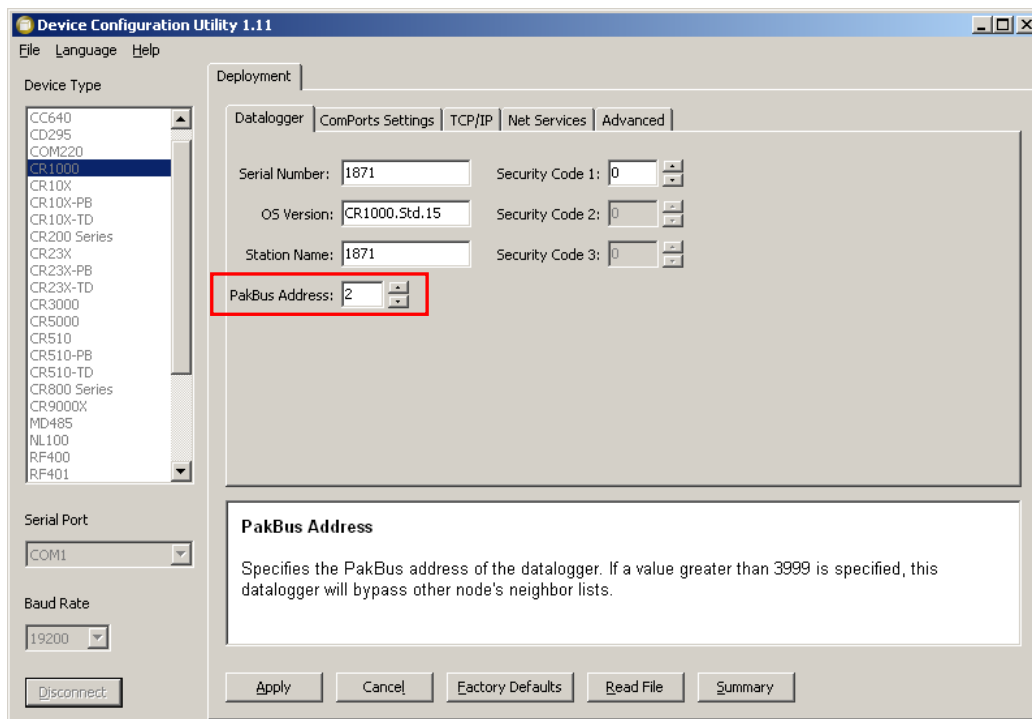
**Note: When using a direct RS-232 connection, Port always on can be UNCHECKED.**

There are 3 settings to configure at the remote node:

1. **Pakbus Address**
2. **RS-232 Port Baud Rate**
3. **Port always on**

See the following screenshots for details configuring each of these settings.

On the **Datalogger** tab configure the PakBus Address.



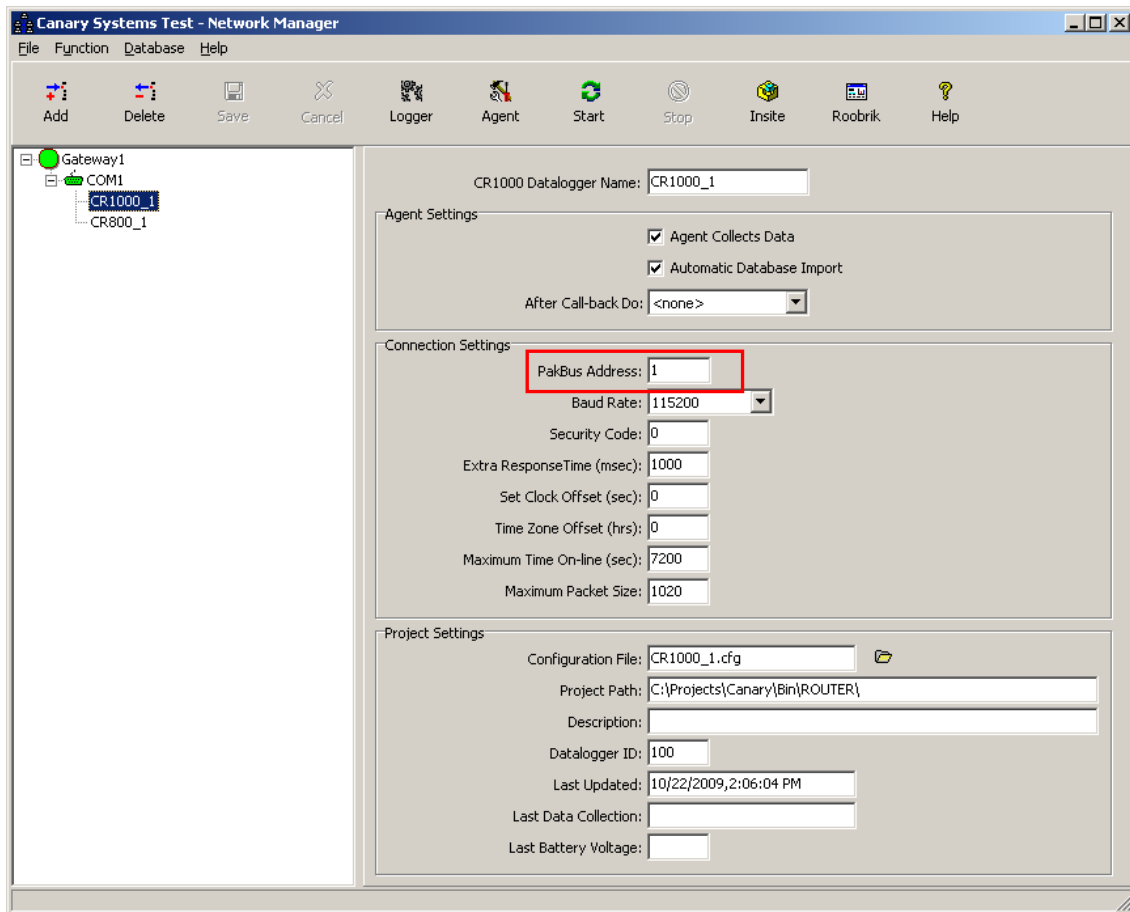
See the previous screenshots for configuring the **RS-232 Port Baud Rate** and **Port always on** settings.

**Note: Be sure to match the baud rates on the RS-232 ports for each MCU!**

After configuring the MCU's be sure to press **Apply** to update the settings. You will have the option of printing or saving the configuration for each node for later reference.

## MultiLogger Configuration

Configuration in MultiLogger is straightforward. Simply configure the port to be used for communication and then attach both MCU nodes at the same level. The nodes are differentiated by their PakBus ID.



For the example network shown above, configure PakBus Address 2 for the CR800 node.

**Note: There will be some extra delay, on the order of 5-10 seconds, when connecting to the remote node because of establishing the routing through the router node.**