

Course: Digital Drift System

Module 1.4:

Config Tool



RFI
TECHNOLOGY SOLUTIONS



Installation – Pre-requisites

The Digital Drift/DigitalBridge Config tool is used for programming and troubleshooting.

Java runtime (≥ 8)

Oracle runtime preferred, but it also works with OpenJDK

- If OpenJDK, a small hack is required to associate JAR files with OpenJDK



Version 8, or
above

OpenJDK

File association
required

Installation – Operating System (OS)

Target OS = Windows (due to a native library)

- Install Winpcap 4.1.3 to gain access to raw sockets
- Must be run with Local Administrator rights
- Requires permission to write to the 'temp' directory (sometimes blocked by group policy)

Alternate OS = Linux

- Must be run as root

NOTE: On-board RJ45 Ethernet is the preferred method, the tool does not work across a Wi-Fi interface and some issues have been reported with USB to Ethernet adaptors.



WinPcap

Version 4.1.3



Must run with local
Admin rights



Linux

Must run as
Root

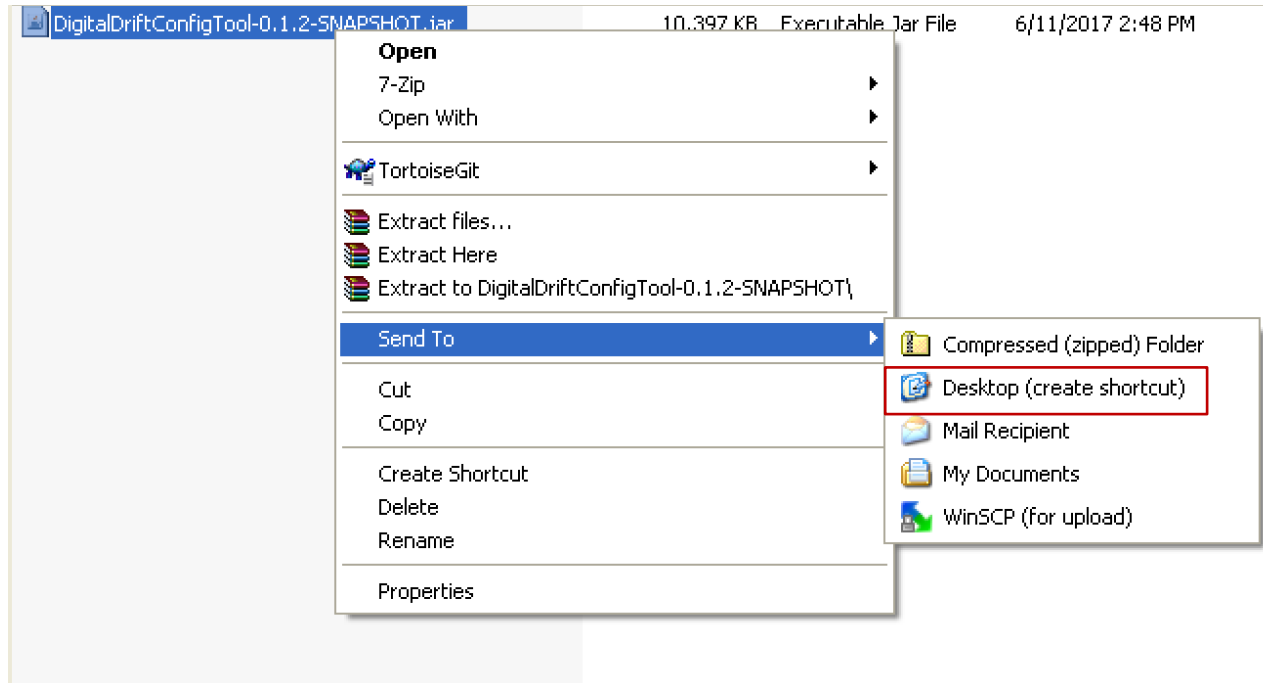
Installation – Config tool JAR file

Copy the config tool's JAR file to a convenient directory

- Current version is 1.1.0
 - Available in RFI and Strata branded editions:
 - DigitalDriftCoaxConfigurator-1.1.0.jar
 - DigitalBRIDGECoaxConfigurator-1.1.0.jar



Optional - Create a shortcut on the desktop.



Running the Config tool

Connect the PC's RJ45 Ethernet port to the network that is used to manage the DD devices (or directly into a DD device)

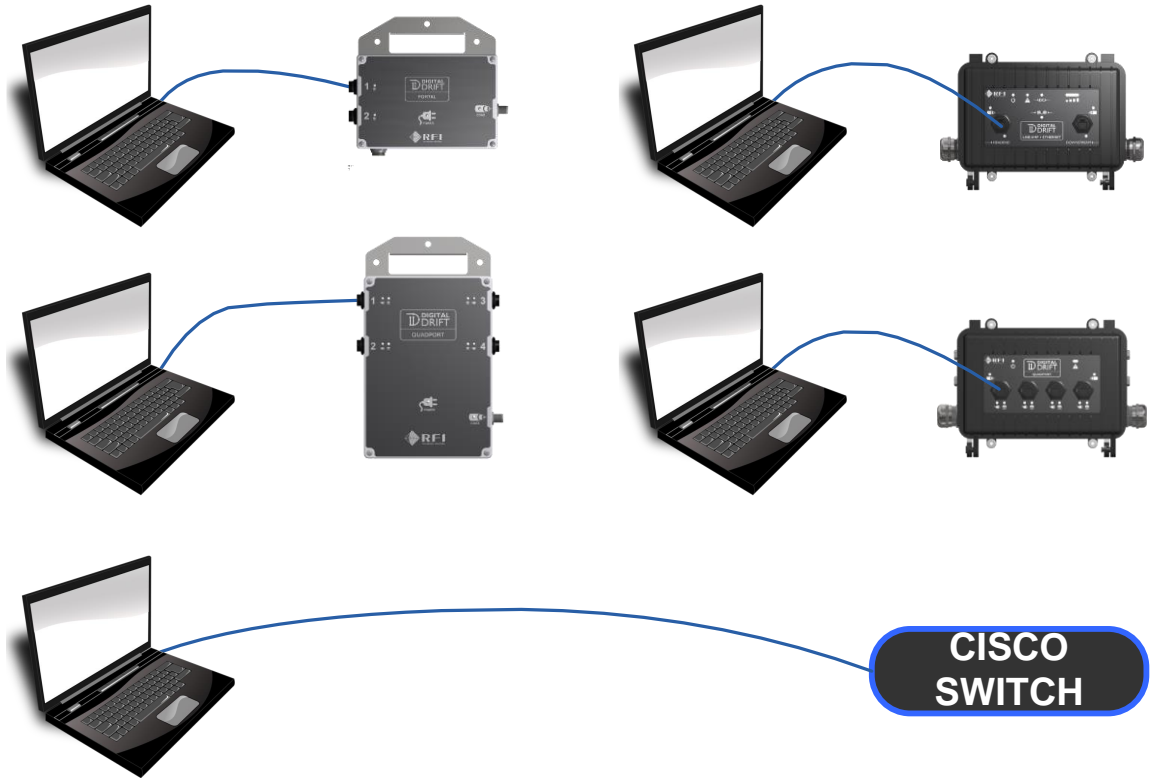
Run from the Config tool from the short cut if you created one

If not run the file form the command prompt:

```
java -jar DigitalDriftCoaxConfigurator-1.1.0.jar
```

Or for the Strata branded edition:

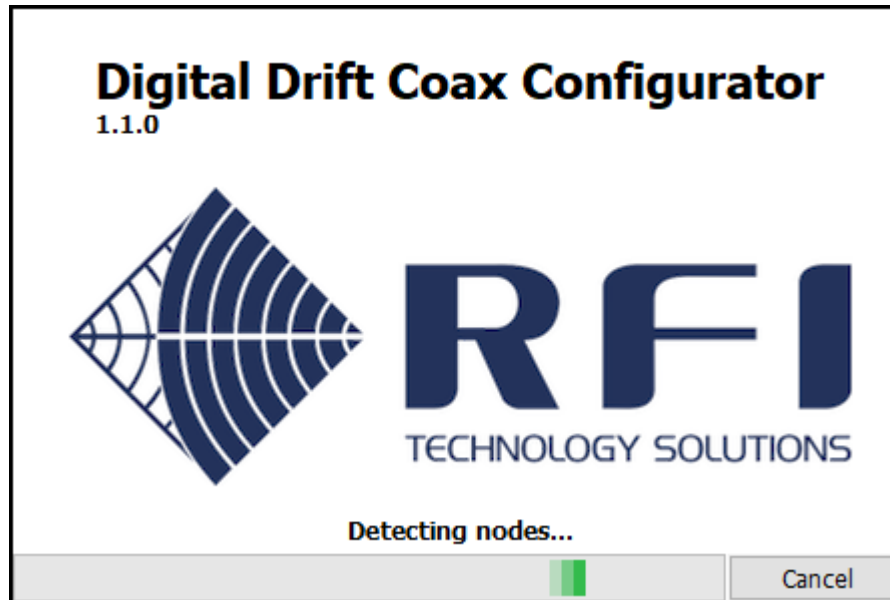
```
java -jar DigitalBRIDGECoaxConfigurator-1.1.0.jar
```



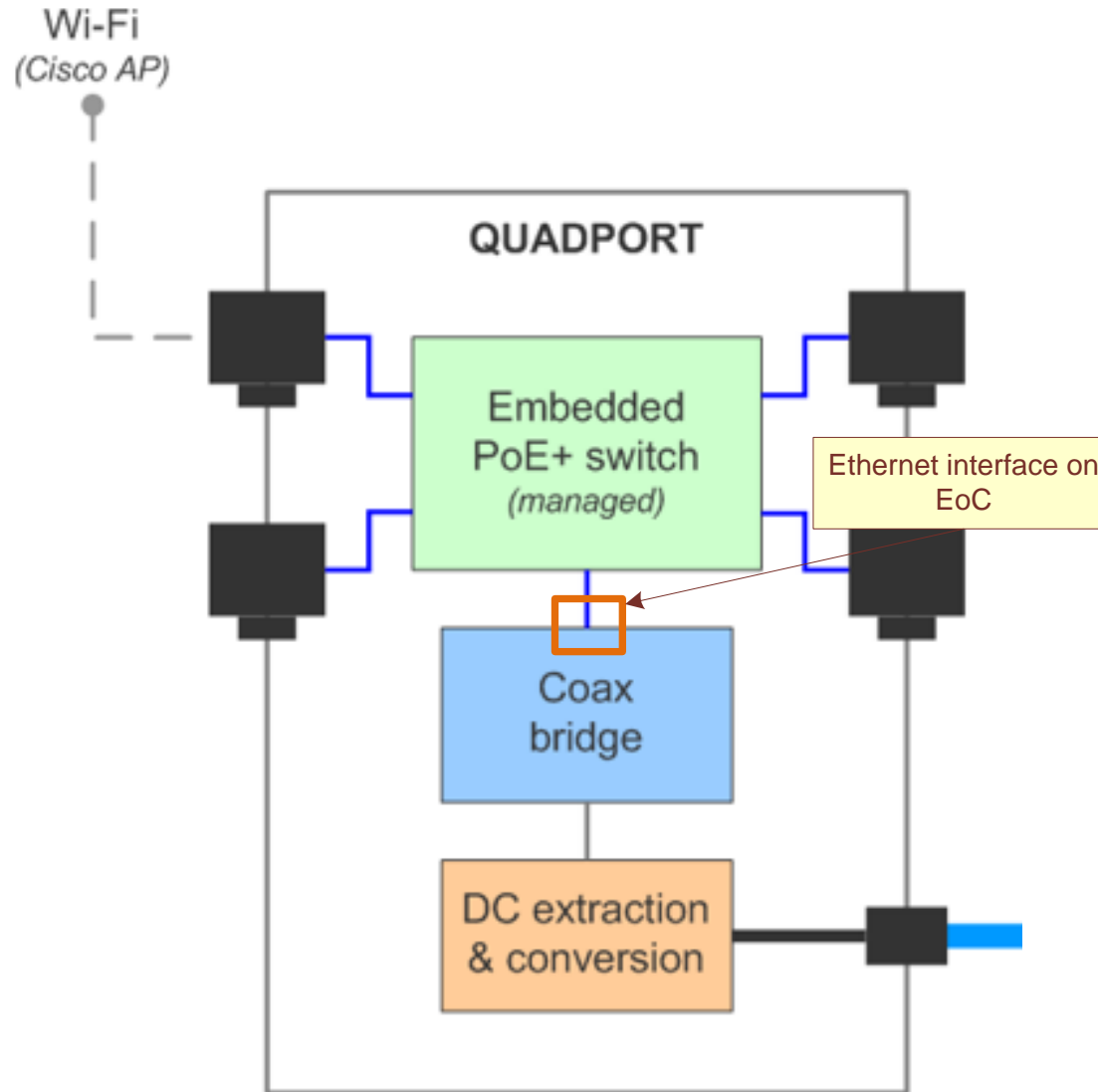
Running the Config tool - Discovery

When the tool starts it sends out multicast discovery packets to find DD devices

It is important to note devices only respond if the discovery request packet is received on its **ETHERNET** interface, not its COAX interface



Ports Overview



Discovered Devices – Single Device Response

If only 1 device responds to the Config Tool's discovery request:

The screenshot shows the Coax Configurator interface. The main window title is "Coax Configurator" and it includes a menu bar with "Discover", "Network", "Options", and "Help". The "Coax segment" header shows "3 nodes" and "Domain Name: DigitalDrift". The "Domain ID" is 13 and the "Master Node" is BC:22:FB:C3:00:48. A list of discovered devices is on the left, with the first device, BC:22:FB:C3:00:48, highlighted in blue. This device is a REPEATER acting as the DOMAIN_MASTER with an IPv4 address of 0.0.0.0 and LAMP supported. Below it are two QUADPORT devices: BC:22:FB:C1:01:B7 and BC:22:FB:C1:01:C2. The main configuration area is titled "Coax connections" and contains fields for Device ID (1), Node Type (DOMAIN_MASTER), Domain Name (DigitalDrift), Domain ID (DOD) (13), and Profile (COAX 200MHz). A table below shows Rx Throughput and Errors for three devices. A tip at the bottom right states: "Tip: Use the Refresh button to update the information of the selected node."

Coax Configurator

Discover Network Options Help

Coax segment
3 nodes

Domain Name: DigitalDrift
Domain ID: 13 Master Node: BC:22:FB:C3:00:48

BC:22:FB:C3:00:48
MAC: BC:22:FB:C3:00:48
Type: REPEATER
Acting as: DOMAIN_MASTER
IPv4 address: 0.0.0.0
LAMP supported

BC:22:FB:C1:01:B7
MAC: BC:22:FB:C1:01:B7
Type: QUADPORT
[Click here to get info](#)

BC:22:FB:C1:01:C2
MAC: BC:22:FB:C1:01:C2
Type: QUADPORT
[Click here to get info](#)

Re-discover Network Refresh Reboot

BC:22:FB:C3:00:48

Basic Config Coax Connections HW Config IPv4 Config

Coax connections

Device ID: Node Type:

Domain Name:

Domain ID (DOD): Profile:

Rx Throughput and Errors are calculated every time that you press Refresh.

Device ID	MAC Address	TX PHY	RX PHY	Rx Throughput	Rx Errors
2	BC:22:FB:C1:01:B7	1961 Mbps	1962 Mbps	-	-
3	BC:22:FB:C1:01:C2	996 Mbps	996 Mbps	-	-

Activate
Go to Settings

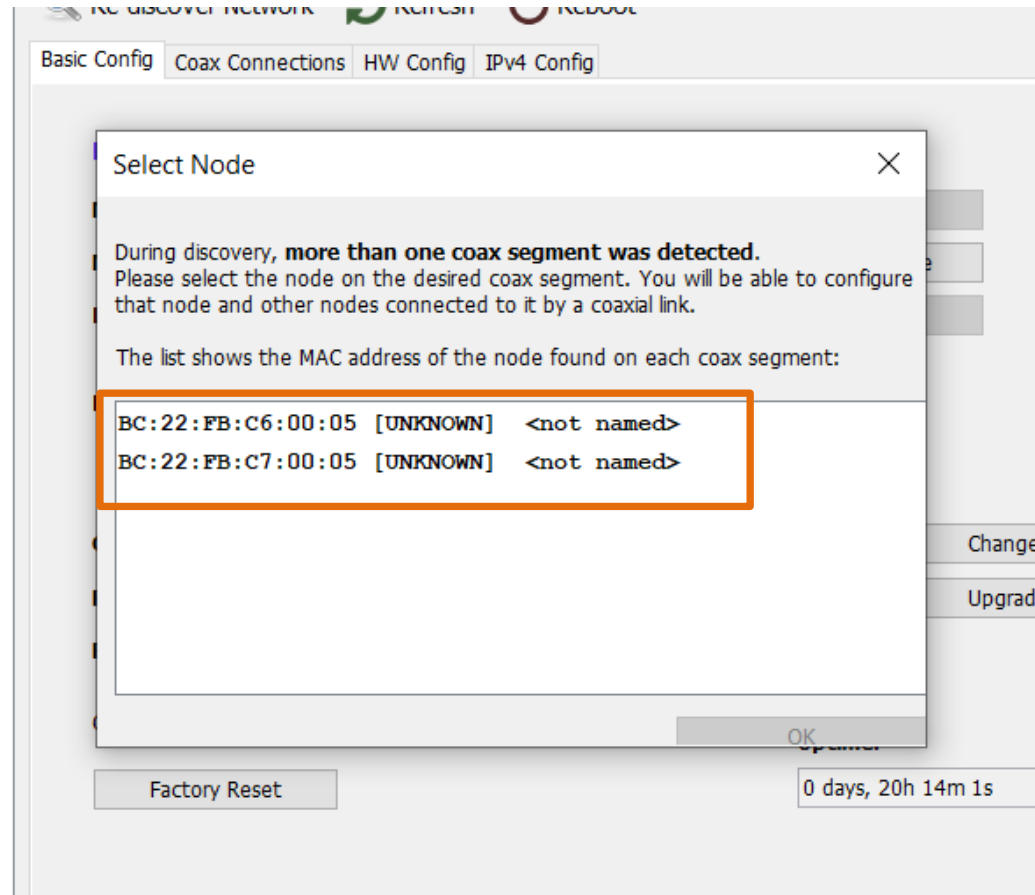
Version 1.1.1-SNAPSHOT

Tip: Use the Refresh button to update the information of the selected node.

Discovered Devices – Multiple Device Response

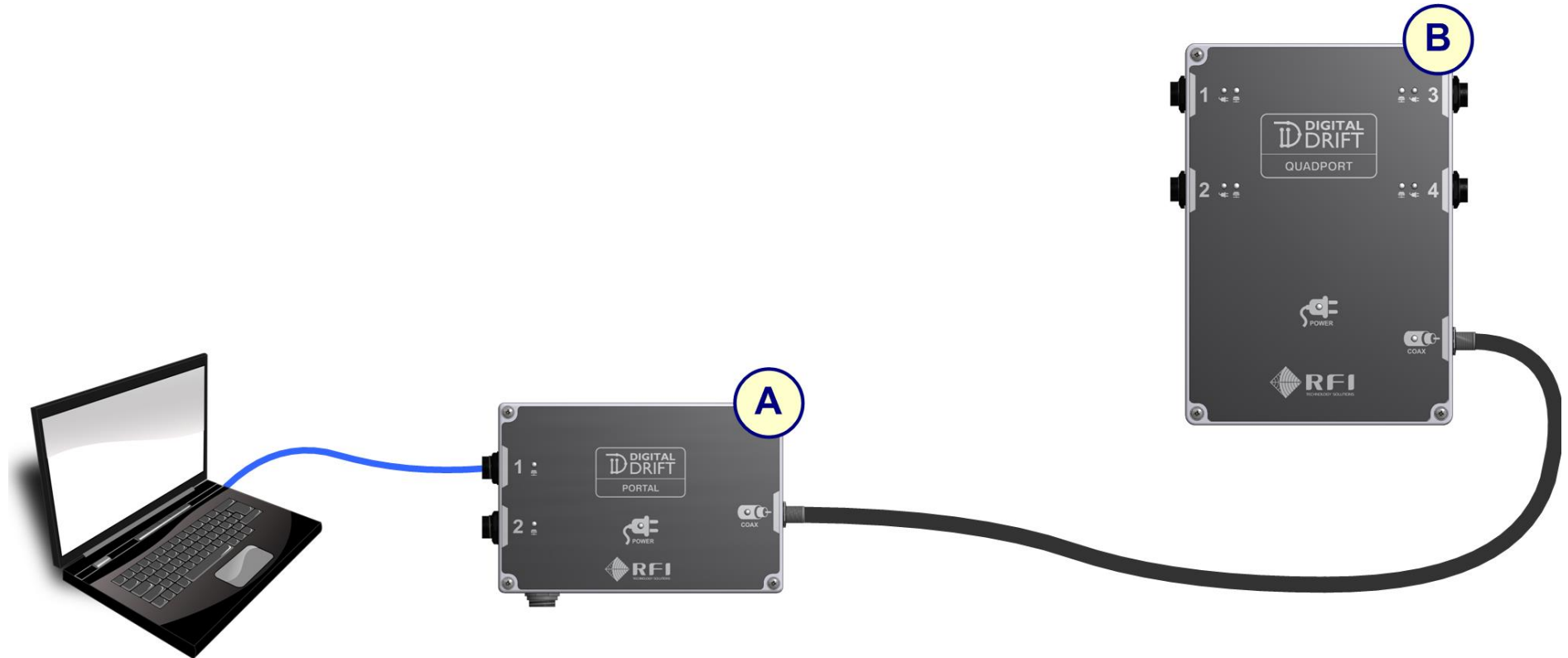
If more than 1 device responds to the Config Tool's discovery request:

- A dialog box is displayed that requires one of the devices to be selected.



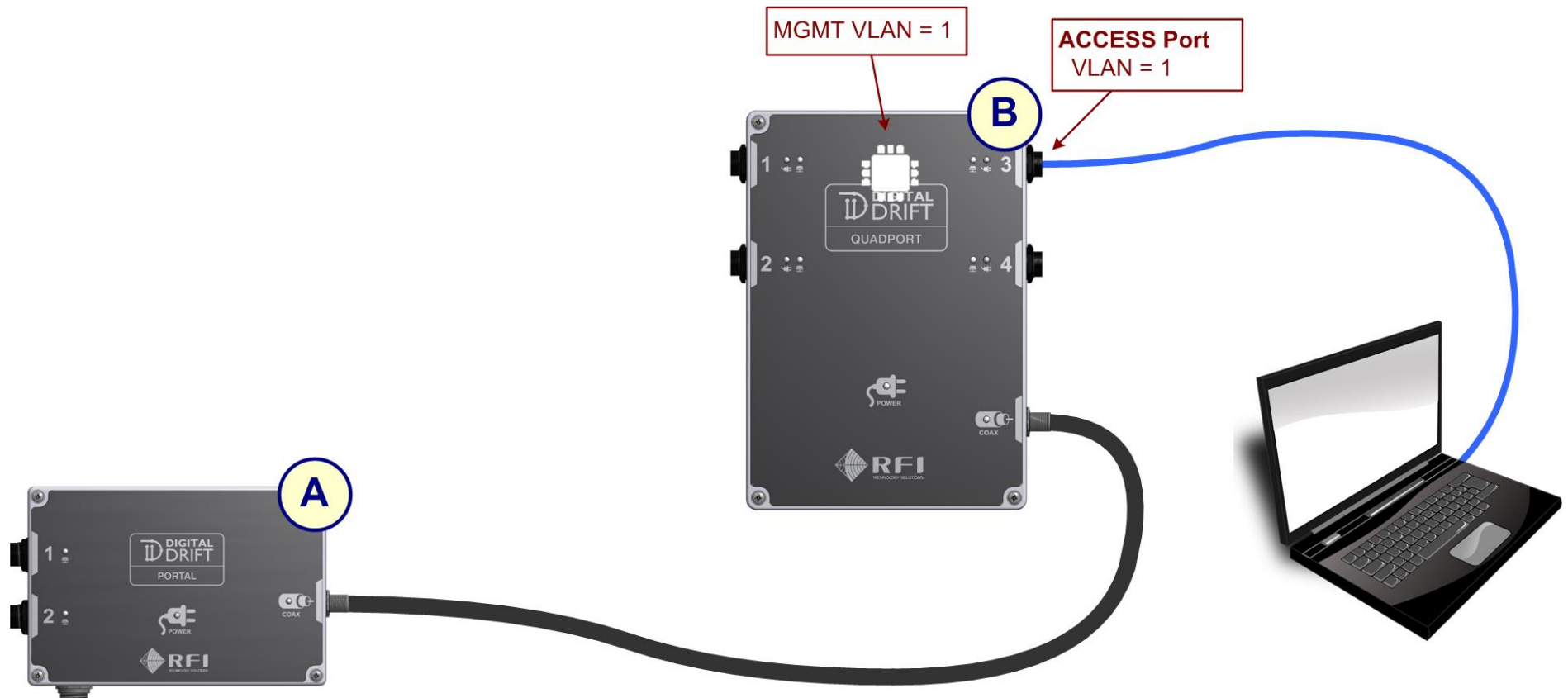
Discovery – Basic system – PO >QP

Only EoC for A will be visible



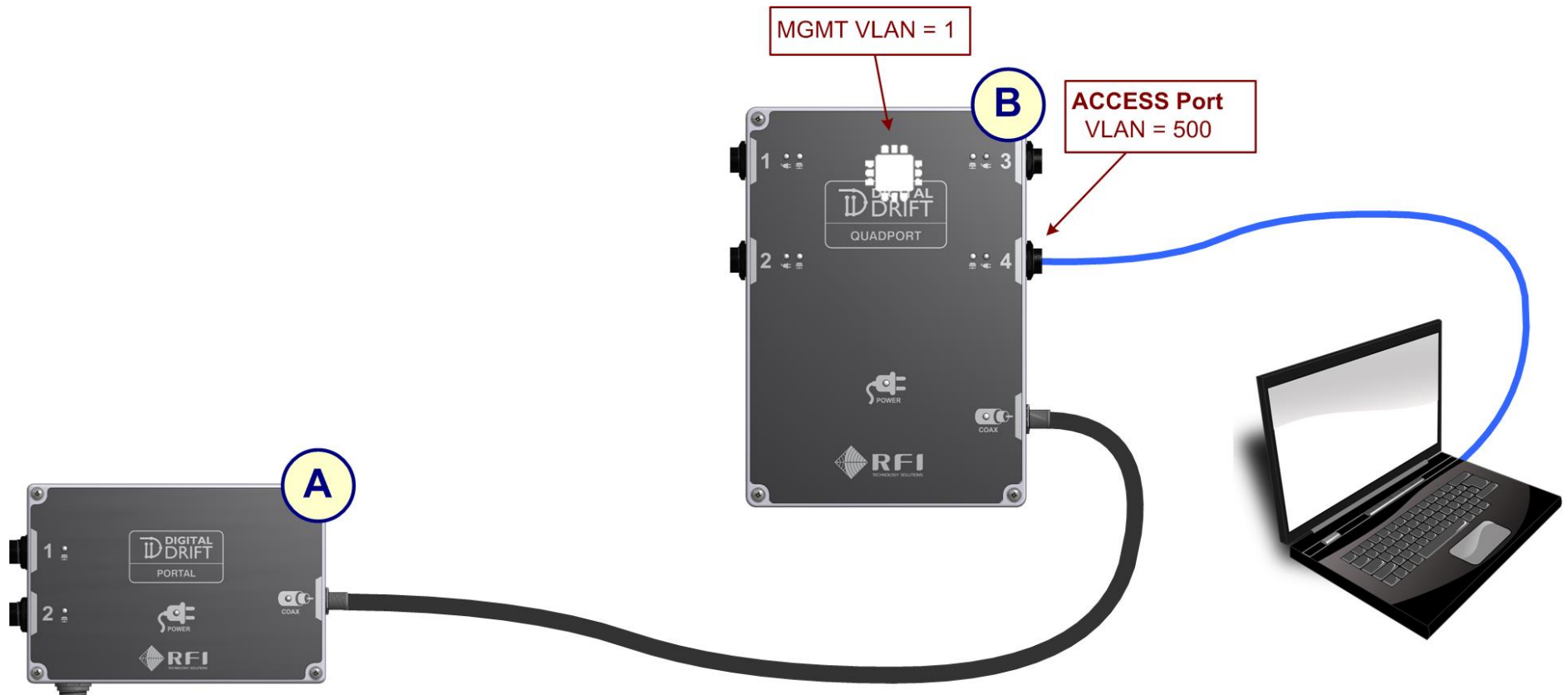
Discovery - Basic System QP>PO

Only EoC for B will be visible



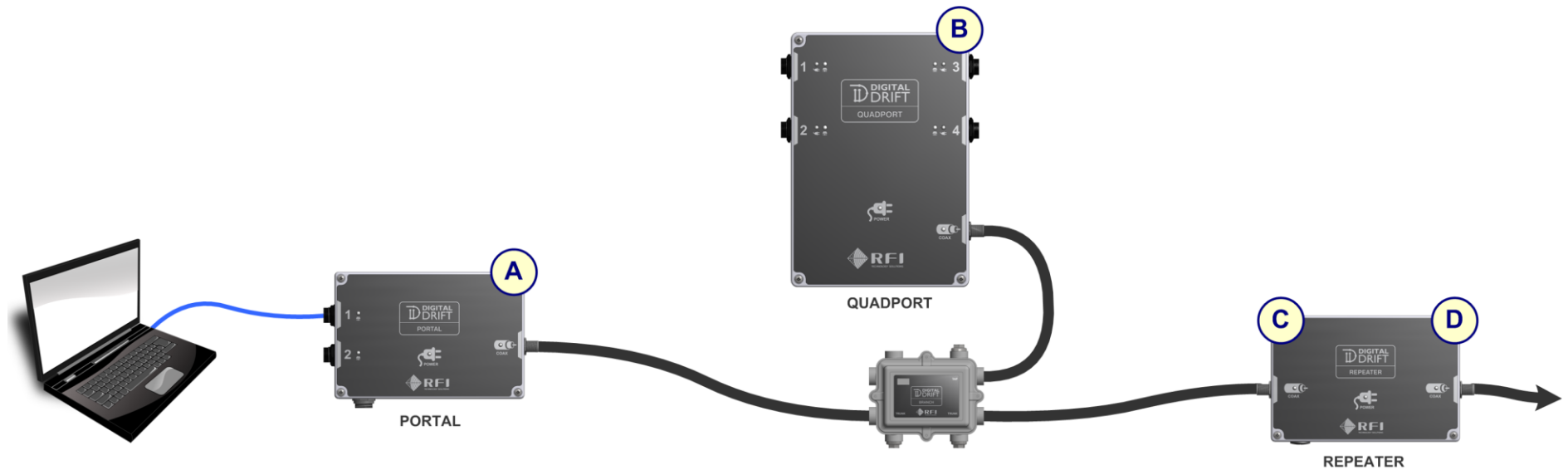
Discovery– Complex VLAN

No EoC will be visible

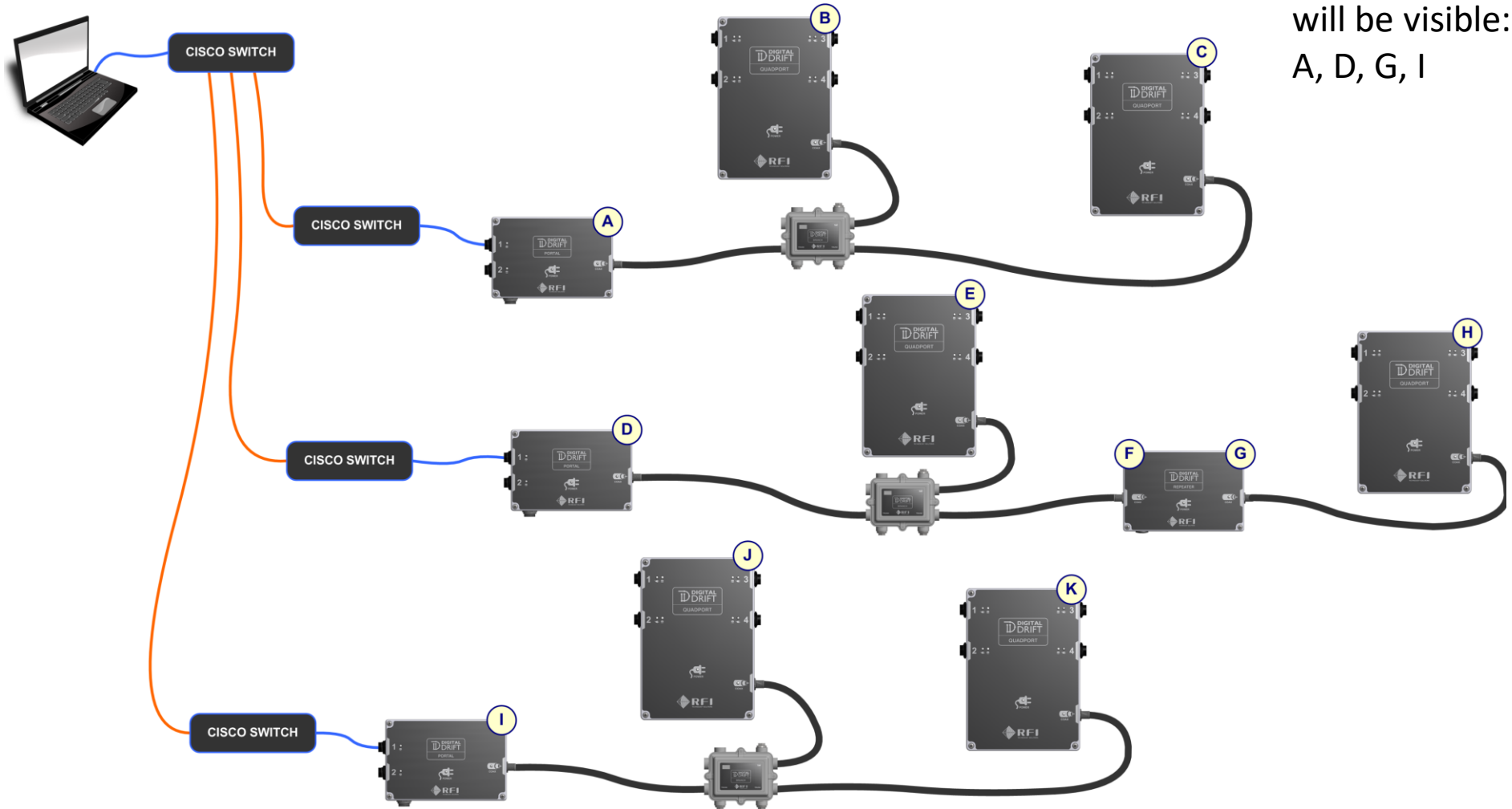


Discovery – Basic system – PO, QP and RP

Only EoC for A and D will be visible



Discovery – Full Mine Network

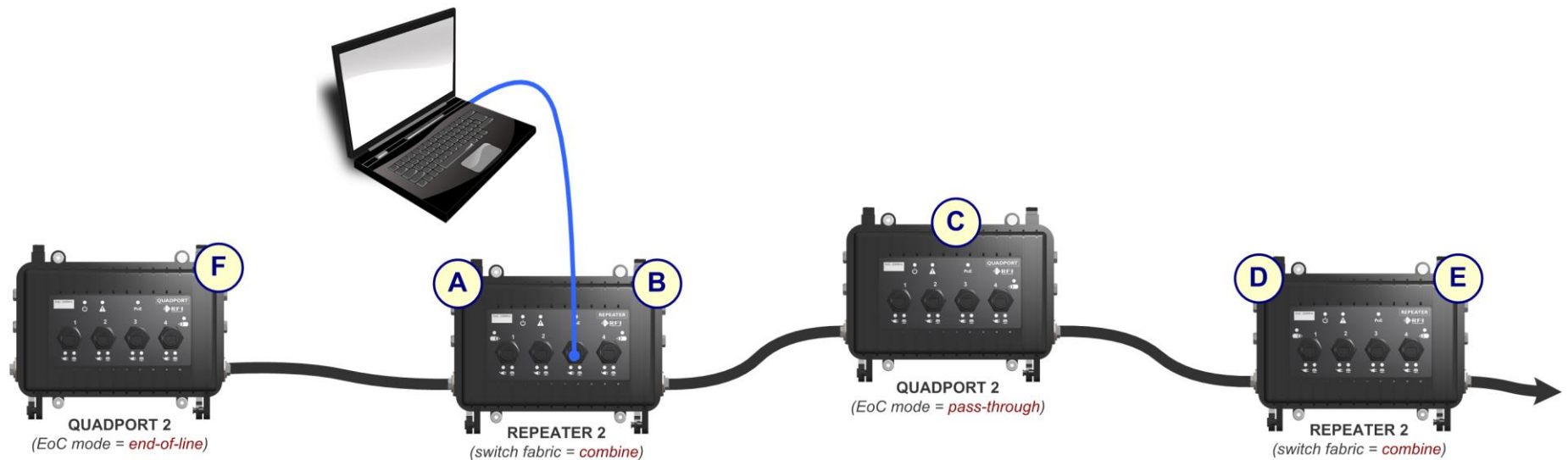


These EoC's
will be visible:
A, D, G, I

Discovery – Combined Network

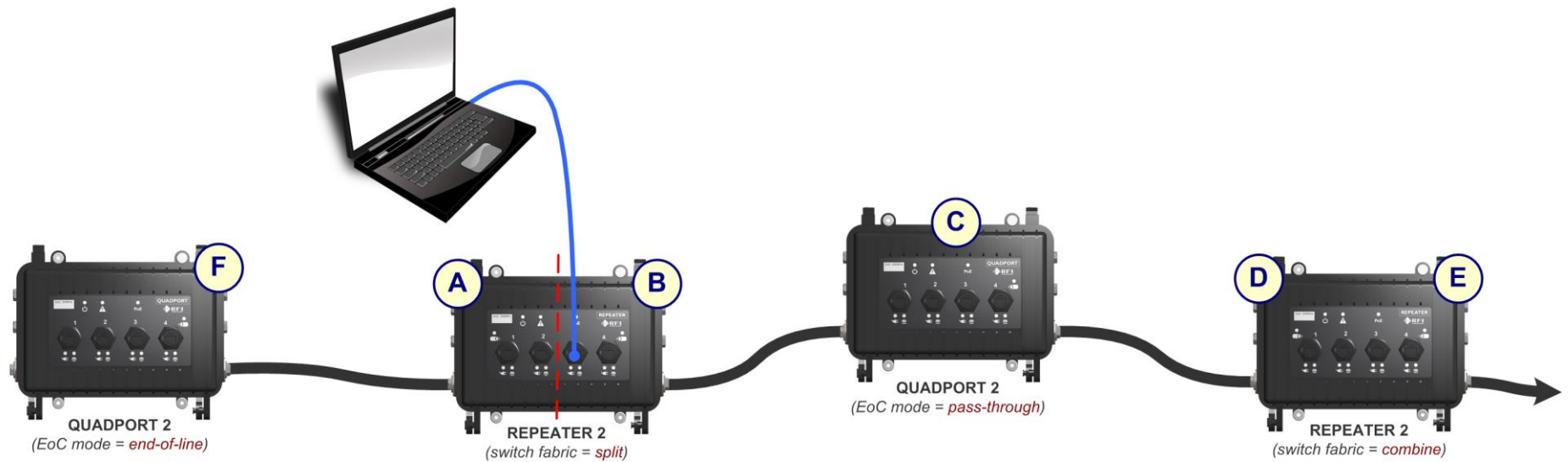
Only EoC for A and B will be visible

LAE, QP2, RP2 does not forward discovery message over coax



Discovery – Split Network

Only EoC for B will be visible



Re-Discover nodes

The image shows the Coax Configurator interface. The main window displays the 'Coax segment' with '0 nodes'. The 'Re-discover Network' button is highlighted with an orange box. A smaller window in the foreground shows the 'Node basic configuration' for 'Johan Test Portal' with a 'Re-discover Network' button also highlighted. A modal dialog box is open with the text 'Re-discovering nodes. Please wait ...'. The background window shows various configuration tabs and fields like 'Node Name', 'Node Role', 'Domain Name', 'Device Type', 'Coax status', 'Firmware', and 'Factory Profile Id'.

Viewing Status

By default the tool starts in read-only mode, allowing status to be viewed

Node summary info

- On the left side is a summary of each node on the coax segment currently being viewed
- When a node is first selected, all of its details are retrieved, but not refreshed again

The screenshot displays the Coax Configurator application window. The title bar reads "Coax Configurator" with standard window controls. Below the title bar is a menu bar with "Discover Network Options Help". The main interface is divided into several sections:

- Coax segment:** Shows "2 nodes".
- Node Summary (Left Panel):** A list of nodes. The selected node is "Johan Test Portal" with MAC address C4:28:2D:C2:00:48, Type: PORTAL, and Acting as: DOMAIN_MASTER. Below it is another node "C4:28:2D:C1:00:65" with MAC address C4:28:2D:C1:00:65, Type: QUADPORT, and a link to "Click here to get info".
- Configuration (Right Panel):** Titled "Node basic configuration", it includes fields for Node Name (Johan Test Portal), Node Role (Automatic (now DOMAIN_MASTER)), Domain Name (DigitalDrift), and Device Type (Portal). Each field has an "Apply" or "Change" button. Below these are sections for Coax status (COAX 100MHz - Connected 749 Mbps), Firmware (ccm210_rfi_auto_role - ver: 2.8), and Factory Profile Id (1). A "Factory Reset" button is present, along with an "Uptime" display showing "0 days, 20h 8m 50s".
- Top Bar:** Contains "Re-discover Network", "Refresh", and "Reboot" buttons, and a large MAC address display "C4:28:2D:C2:00:48".
- Bottom:** Shows "Version 1.1.0" and a tip: "Tip: Use the Refresh button to update the information of the selected node."

Viewing Status - Refresh

The screenshot displays the Coax Configurator software interface. At the top, the title bar reads "Coax Configurator" with menu options "Discover", "Network", "Options", and "Help". Below this, a header section shows "Coax segment" with "2 nodes" and "Domain Name: DigitalDrift". A yellow callout box points to the "Refresh" button, stating: "Refreshes all details for the node currently selected in the list on the left".

The left sidebar lists two nodes:

- Johan Test Portal**
MAC: C4:28:2D:C2:00:48
Type: PORTAL
Acting as: DOMAIN_MASTER
IPv4 address: 10.1.5.2
SCP only (no ICMP)
- C4:28:2D:C1:00:65**
MAC: C4:28:2D:C1:00:65
Type: QUADPORT
[Click here to get info](#)

The main configuration area is titled "Node basic configuration" and includes the following fields and buttons:

- Node Name:** Johan Test Portal (Apply)
- Node Role:** Automatic (now DOMAIN_MASTER) (Change)
- Domain Name:** DigitalDrift (Apply)
- Device Type:** Portal
- Coax status:** COAX 100MHz - Connected 749 Mbps (Change Profile)
- Firmware:** ccm210_rfi_auto_role - ver: 2.8 (Upgrade)
- Factory Profile Id:** 1
- Uptime:** 0 days, 20h 8m 50s

Additional controls include "Re-discover Network", "Refresh", and "Reboot" buttons. A "Factory Reset" button is located at the bottom left of the configuration area. A tip at the bottom right states: "Tip: Use the Refresh button to update the information of the selected node." The version number "Version 1.1.0" is shown in the bottom left corner.

Viewing Status – Basic Config

Coax Configurator
Discover Network Options Help

Coax segment
2 nodes

Johan Test Portal
MAC: C4:28:2D:C2:00:48
Type: PORTAL
Acting as: DOMAIN_MASTER
IPv4 address: 10.1.5.2
SCP only (no LCMF)

C4:28:2D:C1:00:65
MAC: C4:28:2D:C1:00:65
Type: QUADPORT
[Click here to get info](#)

Coax Profile: change to 100 MHz profile if using QPv1 on leaky feeder

Current FW version, see next section for more information

Domain Name: DigitalDrift

Domain ID: 13

Re-discover Network

Basic Config Coax Connections HW Config IPv4 Config

Node basic configuration

Node Name: Johan Test Portal **Name: super handy when troubleshooting. Either use location, or a site asset number, which is printed in large format on the front of the device** [Apply]

Node Role: Automatic (now DOMAIN_MASTER) **Role: do not change - QPs should be 'EndPoint', all others should be 'Automatic'** [Change]

Domain Name: DigitalDrift **Domain Name: do not change - this must match across devices for them to link up on coax** [Apply]

Device Type: Portal

Coax status: COAX 100MHz - Connected 749 Mbps [Change Profile]

Firmware: ccm210_rfi_auto_role - ver: 2.8 [Upgrade]

Factory Profile Id: 1

Click here to restore the factory default configuration: [Factory Reset]

Uptime: 0 days, 20h 8m 50s

Tip: Use the Refresh button to update the information of the selected node.

Version 1.1.0

Viewing Status – Coax Connections

The screenshot displays the 'Coax Configurator' application window. The main area is titled 'Coax connections' and shows configuration fields for Device ID (1), Node Type (DOMAIN_MASTER), Domain Name (DigitalDrift), and Domain ID (DOD) (13). Below these fields is a table showing throughput and errors for two other devices. Annotations with arrows point to the MAC addresses and throughput values in the table.

Coax segment
3 nodes
Domain Name: DigitalDrift
Domain ID: 13
Master Node: BC:22:FB:C3:00:48

BC:22:FB:C3:00:48
MAC: BC:22:FB:C3:00:48
Type: REPEATER
Acting as: DOMAIN_MASTER
IPv4 address: 0.0.0.0
LCMP supported

BC:22:FB:C1:01:B7
MAC: BC:22:FB:C1:01:B7
Type: QUADPORT
Click here to get info

BC:22:FB:C1:01:C2
MAC: BC:22:FB:C1:01:C2
Type: QUADPORT
Click here to get info

Re-discover Network Refresh Reboot

Basic Config **Coax Connections** HW Config IPv4 Config

Coax connections

Device ID: 1 Node Type: DOMAIN_MASTER
Domain Name: DigitalDrift
Domain ID (DOD): 13 Profile: COAX 200MHz

Rx Throughput and Errors are calculated every time that you press Refresh.

Device ID	MAC Address	TX PHY	RX PHY	Rx Throughput	Rx Errors
2	BC:22:FB:C1:01:B7	1961 Mbps	1962 Mbps	-	-
3	BC:22:FB:C1:01:C2	996 Mbps	996 Mbps	-	-

TX data rate as measured by Partner

MAC address of other partner

RX data rate received from Partner

Activate Go to Settings

Version 1.1.1-SNAPSHOT

Tip: Use the Refresh button to update the information of the selected node.

Viewing Status – HW Config

This view only screen is useful for advanced firmware upgrades

The screenshot shows the 'Coax Configurator' application window. The title bar reads 'Coax Configurator' with standard window controls. Below the title bar is a navigation menu with 'Discover', 'Network', 'Options', and 'Help'. The main content area is divided into several sections:

- Coax segment:** Shows '2 nodes', 'Domain Name: DigitalDrift', 'Domain ID: 13', and 'Master Node: C4:28:2D:C2:00:48'.
- Left Panel:** Contains two node entries:
 - Johan Test Portal:** MAC: C4:28:2D:C2:00:48, Type: PORTAL, Acting as: DOMAIN_MASTER, IPv4 address: 10.1.5.2, SCP only (no LCMF).
 - C4:28:2D:C1:00:65:** MAC: C4:28:2D:C1:00:65, Type: QUADPORT, Acting as: END_POINT, IPv4 address: 10.1.5.3, SCP only (no LCMF).
- Top Action Bar:** Includes 'Re-discover Network' (magnifying glass icon), 'Refresh' (refresh icon), and 'Reboot' (power icon). The selected node's MAC address, 'C4:28:2D:C2:00:48', is displayed on the right.
- Navigation Tabs:** 'Basic Config', 'Coax Connections', 'HW Config' (highlighted with a red box), and 'IPv4 Config'.
- HW Information Section:** A form with the following fields:
 - MAC Address: C4:28:2D:C2:00:48
 - Device Name: CCM210
 - HW Product: CCM210
 - Description: Coaxial Comms Module
 - HW Revision: 1_0
 - Manufacturer: RFI Technology Solutions
 - ASIC: 3142
 - Revision: 16
 - Chipset: Fenix
 - Serial Number: 00
- Flash Upgrade Section:** Contains a button labeled 'OSUP Upgrade'.

At the bottom left, the version is 'Version 1.1.0'. At the bottom right, a tip states: 'Tip: Use the Refresh button to update the information of the selected node.'

Viewing Status – IPv4 Config

Coax Configurator

Discover Network Options Help

Coax segment: 2 nodes

DigitalDrift

13 Master Node: C4:28:2D:C2:00:48

Johan Test Portal
MAC: C4:28:2D:C2:00:48
Type: PORTAL
Acting as: DOMAIN_MASTER
IPv4 address: 10.1.5.2
SCP only (no ICMP)

C4:28:2D:C1:00:65
MAC: C4:28:2D:C1:00:65
Type: QUADPORT
Acting as: END_POINT
IPv4 address: 10.1.5.3
SCP only (no ICMP)

Re-discover Network Refresh Reboot

C4:28:2D:C2:00:48

Basic Config Coax Connections HW Config **IPv4 Config**

IPv4 Configuration

Type of IP configuration: Fixed

IP Address: 10.1.5.2 Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS IP Address: 0.0.0.0

Additional IP addresses:

Additional IP 1: 0.0.0.0 Subnet Mask: 0.0.0.0

Additional IP 2: 0.0.0.0 Subnet Mask: 0.0.0.0

Update & Reboot

Check IPv4 Connectivity Click to check IP connectivity from this computer.

Version 1.1.0

Tip: Use the Refresh button to update the information of the selected node.

Changing Device Config

From the menu bar change the Configuration password to "admin"

N.B. This only applies to the current session of the Config Tool. If it is closed and re-opened, it reverts to read-only mode

The image shows two screenshots from the Coax Configurator application. The top screenshot displays the application's menu bar with 'Options' selected, and a dropdown menu where 'Change Configuration Password' is highlighted. Below the menu, a node named 'Johan Test' is visible with details like MAC: C4:28:2D:C2:00:48 and IPv4 address: 10.1.5.2. The bottom screenshot is a 'Change Configuration Password' dialog box with the text: 'The Configuration Password is required to read and change the node configuration.' Below this, there is a text input field containing 'admin' and 'OK' and 'Cancel' buttons.

Changing Device Config – Basic Config

Coax Configurator
Discover Network Options Help

Coax segment
2 nodes

Johan Test Portal
MAC: C4:28:2D:C2:00:48
Type: PORTAL
Acting as: DOMAIN_MASTER
IPv4 address: 10.1.5.2
SCP only (no LCMF)

C4:28:2D:C1:00:65
MAC: C4:28:2D:C1:00:65
Type: QUADPORT
[Click here to get info](#)

Coax Profile: change to 100 MHz profile if using QPv1 on leaky feeder

Current FW version, see next section for more information

Domain Name: DigitalDrift

Node basic configuration

Node Name: Johan Test Portal

Node Role: Automatic (now DOMAIN_MASTER)

Domain Name: DigitalDrift

Device Type: Portal

Coax status: COAX 100MHz - Connected 749 Mbps

Firmware: ccm210_rfi_auto_role - ver: 2.8

Factory Profile Id: 1

Uptime: 0 days, 20h 8m 50s

Tip: Use the Refresh button to update the information of the selected node.

Name: super handy when troubleshooting. Either use location, or a site asset number, which is printed in large format on the front of the device

Role: do not change - QPs should be 'EndPoint', all others should be 'Automatic'

Domain Name: do not change - this must match across devices for them to link up on coax

Changing Device Config – IPv4 Config

The screenshot displays the Coax Configurator application window. The title bar reads "Coax Configurator". Below the title bar, there is a menu bar with "Discover Network Options Help". The main interface is divided into several sections:

- Coax segment:** Shows "2 nodes".
- Device Information:** "DigitalDrift", "13", "Master Node: C4:28:2D:C2:00:48".
- Node List:**
 - Johan Test Portal:** MAC: C4:28:2D:C2:00:48, Type: PORTAL, Acting as: DOMAIN_MASTER, IPv4 address: 10.1.5.2, SCP only (no ICMP).
 - C4:28:2D:C1:00:65:** MAC: C4:28:2D:C1:00:65, Type: QUADPORT, Acting as: END_POINT, IPv4 address: 10.1.5.3, SCP only (no ICMP).
- Navigation:** "Re-discover Network", "Refresh", "Reboot".
- Configuration Tabs:** "Basic Config", "Coax Connections", "HW Config", "IPv4 Config" (selected).
- IPv4 Configuration:**
 - Type of IP configuration: Fixed (dropdown).
 - IP Address: 10.1.5.2, Subnet Mask: 255.255.255.0.
 - Default Gateway: 0.0.0.0.
 - DNS IP Address: 0.0.0.0.
 - Additional IP addresses: Two checkboxes for "Additional IP 1" and "Additional IP 2", both set to 0.0.0.0 with Subnet Mask 0.0.0.0.
 - Buttons: "Update & Reboot", "Check IPv4 Connectivity".
- Footer:** "Version 1.1.0" and a tip: "Tip: Use the Refresh button to update the information of the selected node."

A yellow callout box with a red arrow points to the "IP Address" field, containing the text: "IP address assigned to this EoC interface".

Firmware Upgrade

The screenshot displays the 'Coax Configurator' application window. The main interface is titled 'Coax segment' and shows '2 nodes'. The selected node is 'Johan Test Portal' with MAC address C4:28:2D:C1:00:65. The configuration page is on the 'Basic Config' tab, showing fields for Node Name, Node Role, Domain Name, Device Type, Coax status, Firmware, and Factory Profile Id. A yellow callout box points to the 'Factory Profile Id' field, which contains the value '0'. The callout text reads: 'If the 'Factory Profile Id' on the Basic Config tab is zero - contact RFI tech support for the advanced procedure'. At the bottom right, a tip states: 'Tip: Use the Refresh button to update the information of the selected node.' The version number 'Version 1.1.0' is visible in the bottom left corner.

Coax Configurator

Discover Network Options Help

Coax segment
2 nodes

Domain Name: DigitalDrift
Domain ID: 13 Master Node: C4:28:2D:C2:00:48

Johan Test Portal
MAC: C4:28:2D:C2:00:48
Type: PORTAL
Acting as: DOMAIN_MASTER
IPv4 address: 10.1.5.2
SCP only (no LOMP)

C4:28:2D:C1:00:65
MAC: C4:28:2D:C1:00:65
Type: QUADPORT
Click here to get info

Re-discover Network Refresh Reboot **C4:28:2D:C2:00:48**

Basic Config Coax Connections HW Config IPv4 Config

Node basic configuration

Node Name: Johan Test Portal Apply

Node Role: Automatic (now DOMAIN_MASTER) Change

Domain Name: DigitalDrift

Device Type: Portal

Coax status: COAX 100MHz - Connected 7 Profile

Firmware: ccm210_rfi_auto_role - ver: 2 Profile

Factory Profile Id: **0**

Click here to restore the factory default configuration: Uptime: 0 days, 20h 8m 50s

Factory Reset

Version 1.1.0

Tip: Use the Refresh button to update the information of the selected node.

Firmware Upgrade – Cont.

The screenshot shows the Coax Configurator interface. On the left, a sidebar lists network segments: 'Coax segment' (2 nodes), 'Johan Test Portal' (MAC: C4:28:2D:C2:00:48, Type: PORTAL, Acting as: DOMAIN_MASTER, IPv4 address: 10.1.5.2, SCP only (no LCMF)), and 'C4:28:2D:C1:00:65' (MAC: C4:28:2D:C1:00:65, Type: QUADPORT, Click here to get info). The main area shows 'Node basic configuration' for 'Johan Test Portal' with fields for Node Name, Node Role (Automatic (now DOMAIN_MASTER)), Domain Name (DigitalDrift), and Device Type (Portal). The Coax status is 'COAX 100MHz - Connected 749 Mbps'. The current firmware is 'ccm210_rfi_auto_role - ver: 2.8'. The Factory Profile Id is set to '1'. A yellow callout box points to the '1' with the text 'If the 'Factory Profile Id' is not zero'. An 'Upgrade' button is highlighted with a red box. A dialog box titled 'OSUP Upgrade node C4:28:2D:C2:00:48' is open, showing 'Current firmware: ccm210_rfi_auto_role - ver: 2.8' and a 'New firmware:' field with a 'Browse...' button. A 'Start Upgrade' button is at the bottom of the dialog.

Device Type	Firmware File
PO v1 (Wave-2)	ccm220_upgrade@<version>.bin
QP v1 (Wave-2)	ccm220_upgrade@<version>.bin
RP v1 (Wave-2)	ccm220_upgrade@<version>.bin
QPv2	ccm320a_upgrade@<version>.bin
RPv2 ('right side')	ccm320a_upgrade@<version>.bin
LAE ('right side')	ccm320a_upgrade@<version>.bin
RPv2 ('left side')	ccm320b_upgrade@<version>.bin
LAE ('left side')	ccm320b_upgrade@<version>.bin

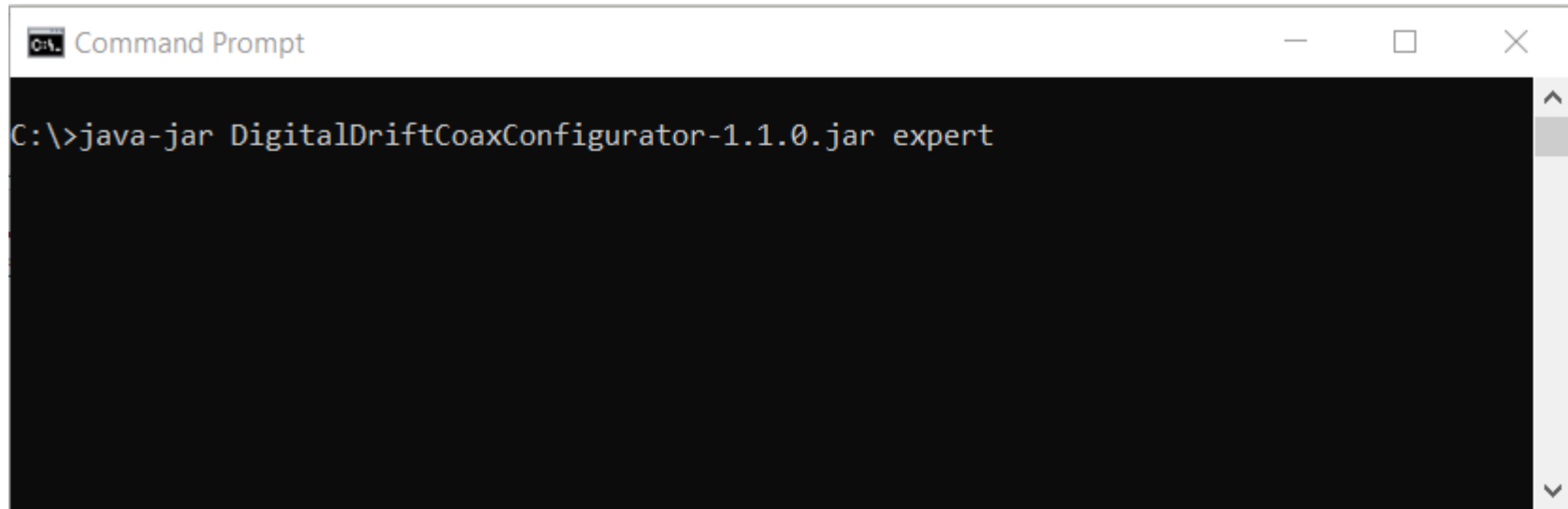
Batch operations

The screenshot displays the Coax Configurator application window. The main menu includes 'Discover', 'Network', 'Options', and 'Help'. A dropdown menu is open under 'Network', listing several batch operations: 'Refresh all nodes', 'Reboot all nodes', 'Factory Reset all nodes', 'Change Domain Name in all nodes', 'Change Profile in all nodes', 'Upgrade multiple nodes', and 'Traffic Monitor'. A yellow callout box points to the 'Refresh all nodes' option, stating: 'Operations can be applied to all nodes on the coax segment currently being viewed'. A red callout box points to the 'Change Domain Name in all nodes' option, stating: 'Recommend to only touch these if you are an advanced user'. The interface shows configuration details for a selected node, including 'Node Name', 'Node Role' (Automatic (now DOMAIN_MASTER)), 'Domain Name' (DigitalDrift), 'Device Type' (Portal), 'Coax status' (COAX 100MHz - Connected 770 Mbps), 'Firmware' (ccm210_rfi_auto_role - ver: 2.8), and 'Factory Profile Id' (1). A 'Factory Reset' button is visible at the bottom left, and an 'Uptime' field shows '0 days, 0h 0m 17s'. A tip at the bottom right reads: 'Tip: Use the Refresh button to update the information of the selected node.' The version number 'Version 1.1.0' is displayed at the bottom left.

Expert Mode – For advanced trouble shooting

Browse to the appropriate file location in a command prompt window and run:

- `java -jar DigitalDriftCoaxConfigurator-1.1.0.jar expert`
- OR
- `java -jar DigitalBRIDGECoaxConfigurator-1.1.0.jar expert`



```
Command Prompt
C:\>java-jar DigitalDriftCoaxConfigurator-1.1.0.jar expert
```

Expert Mode – For advanced trouble shooting

Useful for troubleshooting communications problems between nodes on a coax segment

Requires the PC running the Config Tool to have IPv4 connectivity to each node under investigation

To test IP connectivity to each node under investigation, use the 'Check IPv4 connectivity' button on the IPv4 Config tab for each node

The screenshot shows the Coax Configurator software interface. The window title is "Coax Configurator" and it includes a menu bar with "Discover", "Network", "Options", and "Help". The main area is divided into several sections:

- Coax segment:** Shows "2 nodes", "Domain Name: DigitalDrift", "Domain ID: 13", and "Master Node: C4:28:2D:C2:00:48".
- Node list:** Two nodes are listed:
 - Johan Test Portal:** MAC: C4:28:2D:C2:00:48, Type: PORTAL, Acting as: DOMAIN_MASTER, IPv4 address: 10.1.5.2, SCP only (no ICMP).
 - C4:28:2D:C1:00:65:** MAC: C4:28:2D:C1:00:65, Type: QUADPORT, Click here to get info.
- Configuration tabs:** Basic Config, Coax Connections, HW Config, IPv4 Config, Ethernet, SNR & PSD (highlighted with a red box and an arrow), IPv6 Config, Notches, QoS Config, VLAN, Mult... (with left and right arrow icons).
- Node basic configuration:** Fields for Node Name (Johan Test Portal), Node Role (Automatic (now DOMAIN_MASTER)), and Domain Name (DigitalDrift), each with an "Apply" button.
- SNR_PROBE test:** A yellow callout box containing:
 - Performs a live SNR between two nodes (one transmitting and one receiving)
 - N.B. It is not symmetrical (due to different noise levels at the receivers) so run it in both directions
 - Best case = > 45 dB SNR across as wide a band as possible, relatively flat
- NOISE:** A yellow callout box containing:
 - Measures the noise floor at the test's 'RX Node'
 - Ideally less than 145 dBm/Hz across the band
- Tip:** Use the Refresh button to update the information of the selected node.



Accessing the Ethernet Switch in the Managed Quadport

rfi.com.a
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QuadPort Managed Switch Configuration

The default access details for the switch is:

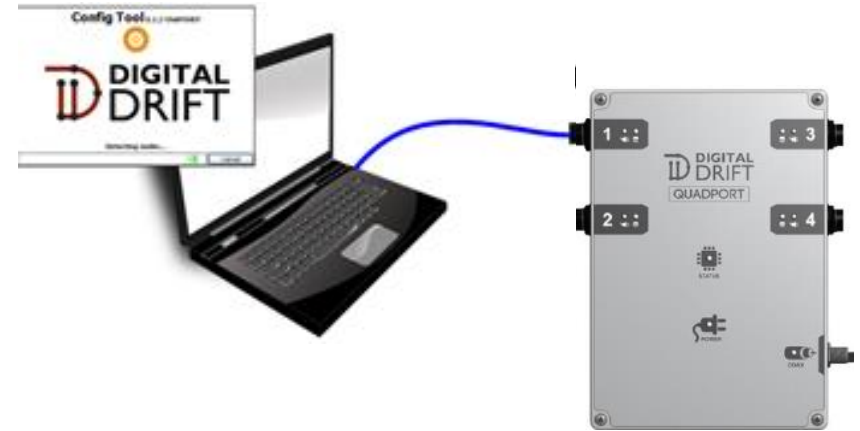
IP: 10.1.1.1

Username: admin

Password: blank (no password)

The menu of most use will be:

- VLAN
- PoE
- SNMP
- Security menu (for TACACS, etc)



- If the IP of the switch is unknown there are two ways to access it:
- “SwitchConfigurator” is a software package which can discover the switch as long as its management interface is on the port you are plugged into and it is untagged
- Second way is to:
 - power it off
 - plug a patch lead between port 1 and 2.
 - power it on
 - wait until the switch boots up it will cause a loopback obviously. When you see it flashing crazy unplug the patch lead
 - The switch is now at defaults until you power cycle it
 - This means you can plug into any of the four ports and access 10.1.1.1
 - You can now reconfigure it, but you must Save to flash before power cycling - otherwise it will boot up with the previously saved config

QuadPort Managed Switch Configuration



Industrial 4X 10/100Base T(X) + 2X SFP with 4 High Power PoE managed Switch

- System
- Green Ethernet
- Ports
 - Configuration
 - State
 - Traffic Overview
 - QoS Statistics
 - QCL Status
 - Detailed Statistics
 - VeriPHY
 - SFP
- Security
- Aggregation
- Redundancy
- IPMC Profile
- MVR
- IPMC
- LLDP
- PoE
 - Configuration
 - PoE Check
 - PoE Schedule
 - Status
- MAC Table
- VLAN Translation
- VLANs
- Private VLANs
- GVRP
- VCL
- QoS
 - Mirroring
 - UPnP
- PTP (IEEE1588)
 - L2CP
- Diagnostics
- Maintenance

Power Over Ethernet Configuration

Reserved Power determined by Class Allocation LLDP-MED

Power Management Mode Actual Consumption Reserved Power

PoE Power Supply Configuration

Primary Power Supply [W]

80

PoE Port Configuration

Port	PoE Mode	Priority	Maximum Power [W]
*	<>	<>	30
1	PoE+	Low	30
2	PoE+	Low	30
3	PoE+	Low	30
4	PoE+	Low	30

Save Reset

QuadPort Managed Switch Configuration

- Ports 1-4 is the QP ports, port 5 is the trunk port - it is important to make your trunk port (Port 5) a trunk port with the same settings as the trunk port on your ethernet switch connecting to the Portal
- Allowed access VLANs - list all VLANs you want on the switch, comma separated
- Select trunk or access,
 - If selecting Access, all you need to do next is select the appropriate Port VLAN
 - If selecting Trunk, the "Port VLAN" column should be the VLAN that is to be 'native'
- In egress tagging, ensure that untag port vlan is selected
- Lastly, in allowed VLANs, list the VLANs to be allowed on the trunk, including the native VLAN number

Industrial 4X 10/100Base T(X) + 2X SFP with 4 High Power PoE managed Switch

Global VLAN Configuration

Allowed Access VLANs: 1
Ethertype for Custom S-ports: 88A8

Port VLAN Configuration

Port	Mode	Port VLAN	Port Type	Ingress Filtering	Ingress Acceptance	Egress Tagging	Allowed VLANs	Forbidden VLANs
*	<>	1	<>	<input checked="" type="checkbox"/>	<>	<>	1	
1	Access	1	C-Port	<input checked="" type="checkbox"/>	Tagged and Untagged	Untag Port VLAN	1	
2	Access	1	C-Port	<input checked="" type="checkbox"/>	Tagged and Untagged	Untag Port VLAN	1	
3	Access	1	C-Port	<input checked="" type="checkbox"/>	Tagged and Untagged	Untag Port VLAN	1	
4	Access	1	C-Port	<input checked="" type="checkbox"/>	Tagged and Untagged	Untag Port VLAN	1	
5	Access	1	C-Port	<input checked="" type="checkbox"/>	Tagged and Untagged	Untag Port VLAN	1	
6	Access	1	C-Port	<input checked="" type="checkbox"/>	Tagged and Untagged	Untag Port VLAN	1	

Save | Reset

QuadPort Managed Switch Configuration

Make sure you go to the maintenance tab at the bottom and save the start up configuration, otherwise all your settings will be lost when the switch restarts

Industrial 4X 10/100Base T(X) + 2X SFP with 4 High Power PoE managed Switch

- UCL Status
- Detailed Statistics
- VeriPHY
- SFP

Security

Aggregation

Redundancy

IPMC Profile

MVR

IPMC

LLDP

PoE

- Configuration
- PoE Check
- PoE Schedule
- Status

MAC Table

VLAN Translation

VLANs

- Configuration
- Membership
- Ports

Private VLANs

GVRP

VCL

QoS

Mirroring

UPnP

PTP (IEEE1588)

L2CP

Diagnostics

Maintenance

- Reboot
- Factory Defaults
- Software

Configuration

- **Save startup-config**
- Backup
- Restore
- Activate
- Delete

Save Running Configuration to startup-config

Please note: The generation of the configuration file may be time consuming, depending on the amount of non-default configuration.

Save Configuration