Introduction to VM²

VM² is a unique new patented feature, which allows the status information for AKG wireless microphones to be displayed directly within the channel strip that they are connected to. This feature makes further use of Harman's HiQnet network control protocol and brings many benefits including streamlining of the workflow and increase in speed of problem diagnosis.

VM² Concepts

VM² stands for 'Vistonics Microphone Monitoring'. It takes advantage of Harman's HiQnet control network to allow a level of integration between a HiQnet-enabled AKG Wireless Microphone system, and a Soundcraft Vi Series console.

What is HiQnet™?

HiQnet is a network communications protocol developed by Harman which enables various professional audio products within the Harman Pro-audio range to communicate with each other and provides remote control and monitoring of Harman devices such as power amplifiers, powered speakers, DSP processors and microphones. Ethernet is normally used as the transport method for HiQnet control, as it provides a robust and standardised method of connecting multiple devices in a network configuration. A Windows application called System Architect provides a master control and monitoring program that allows all equipment on the HiQnet network to be controlled from a single user interface.

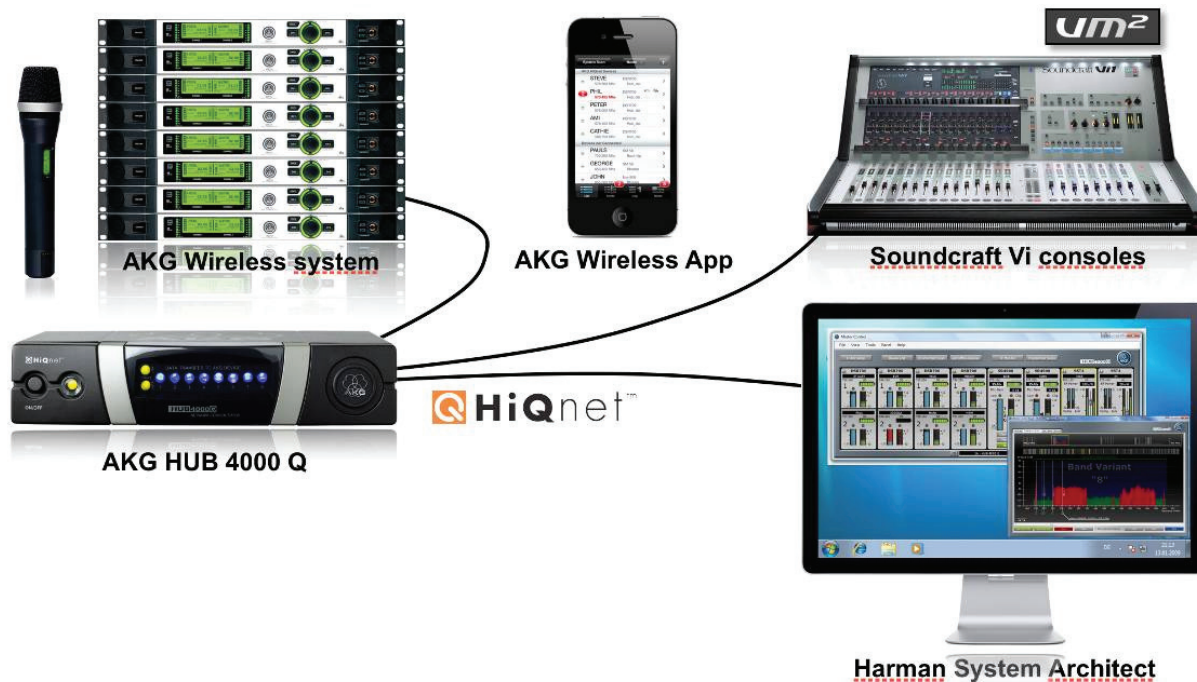### How is HiQnet used on the Vi-series?

Since V3.0 software, the Vi-series has included only a limited HiQnet functionality which allows error messages generated by other Harman devices to be displayed in the console's message log – for example thermal overload messages generated by Crown amplifiers. In addition the consoles were able to transmit a Venue Preset recall - the HiQnet equivalent of a MIDI Program Change – to all other devices in the network. Version 4.5 now adds significantly to this existing HiQnet functionality with the ability to monitor wireless microphone status within the console GUI.

HiQnet is also used to used to provide remote control of console parameters, for example via the Soundcraft ViSi Remote iPad® app. See chapter 26.

How does VM^2 work?

In our Microphone Monitoring setup, the AKG wireless receivers are connected to an AKG device called Hub4000Q, which receives data cables from up to 8 wireless receiver units and provides a single HiQnet Ethernet connection through which the monitoring information for the 8 microphones can be accessed by other devices.

In the simplest configuration, one Hub4000Q can be connected directly to the HiQnet port of a Vi Series console, and the monitoring functionality will be provided on the console. Typically however other devices will be required to share the HiQnet data from the microphones, and in this case an Ethernet switch (not shown in the diagram below) will be used to allow other Harman devices and/or a wired or wireless computer running Harman's System Architect software to be connected into the network.
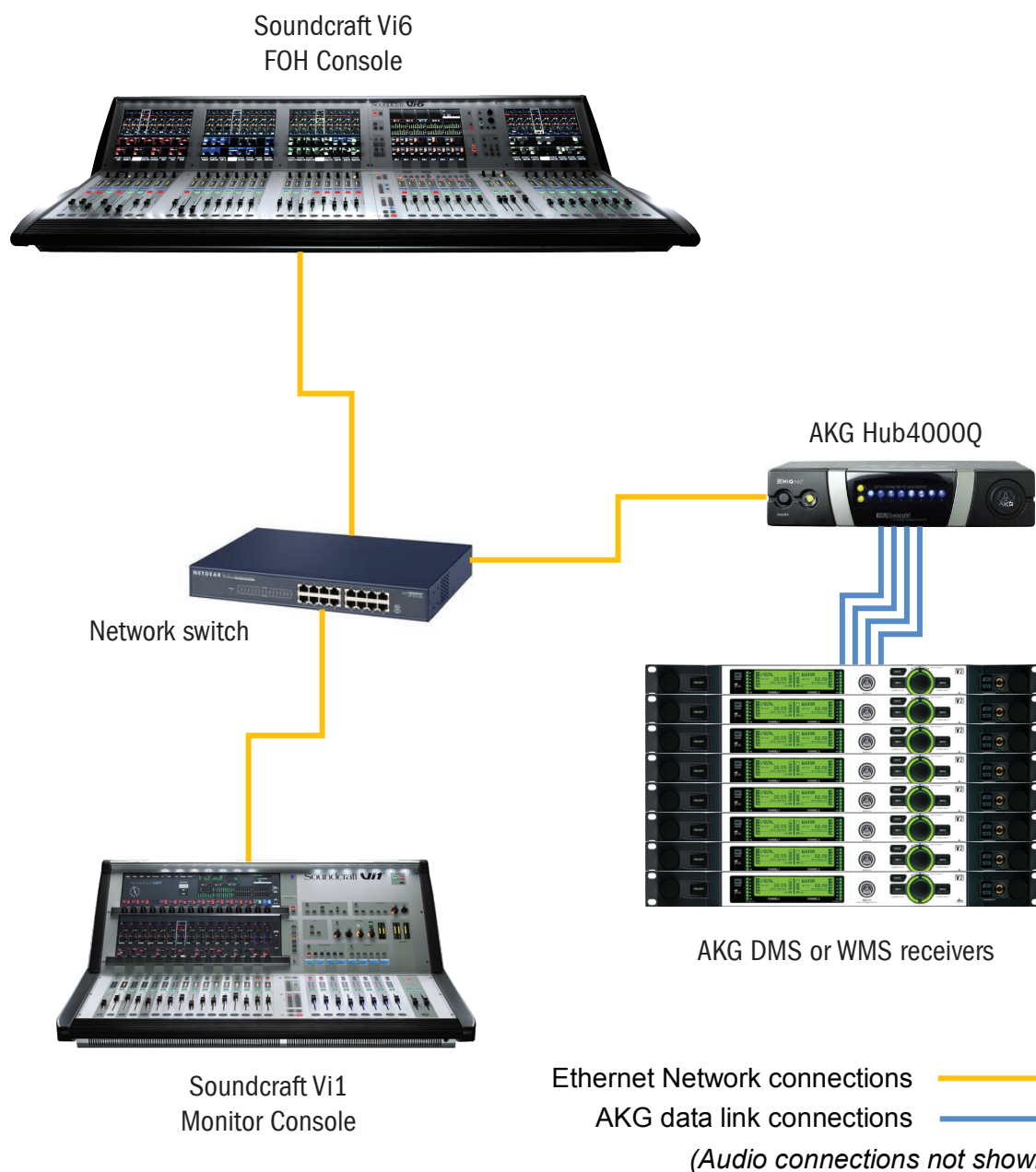
Setting up a VM² Network

In the following setup information, a basic understanding of computer network configuration is assumed.

Basic Network Topology

The example illustrated shows a typical setup with a front-of-house and Monitor console and a rack of AKG wireless receivers.
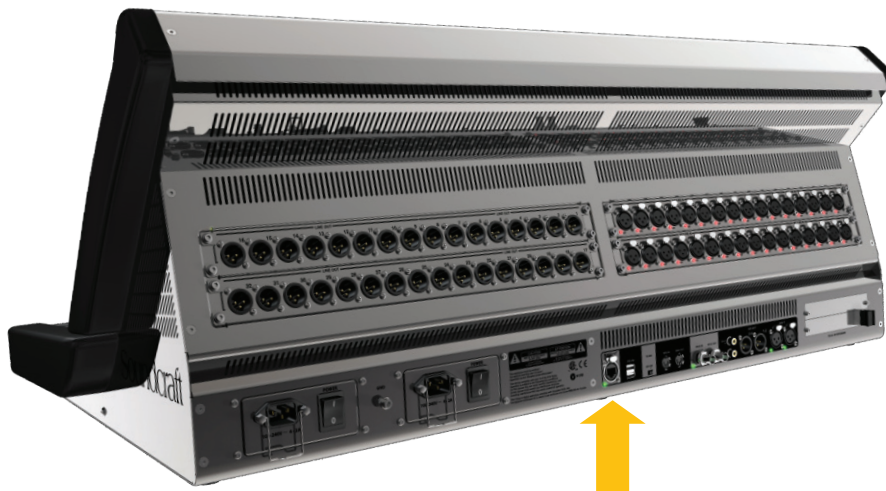
If only one console is being used, and there is no other HiQnet-connected equipment, the Hub4000Q can be directly connected to the console without using a switch, but in most cases it is better to use one. A computer running System Architect software may also be connected to the switch, and if a wireless router is included in the network, the AKG wireless iPhone app may be used for additional monitoring of the microphone data.

Soundcraft Vi6
FOH Console

AKG Hub4000Q

Network switch

AKG DMS or WMS receivers

Soundcraft Vi1
Monitor Console

Ethernet Network connections ———
AKG data link connections ———
(Audio connections not shown)

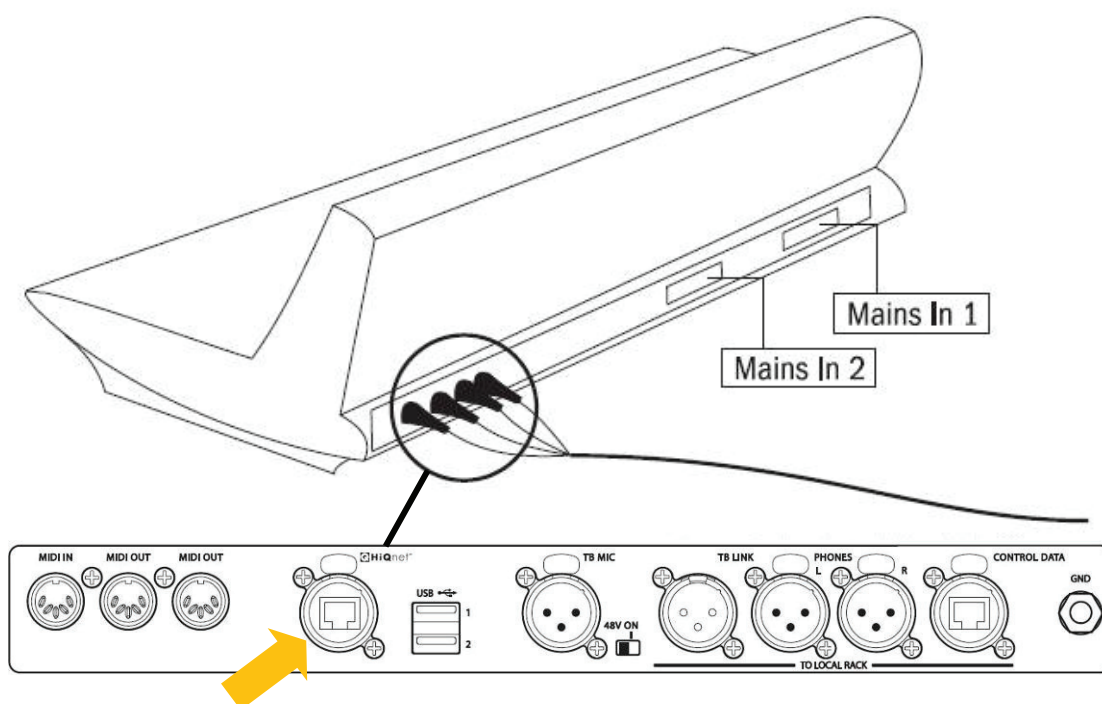## Identifying the HiQnet Network connector on Vi consoles

Vi1

The HiQnet port is on the rear of the control surface, adjacent to the rear USB sockets.

Important! The HiQnet port on early Vi1 consoles (serial numbers lower than 30210956) is only able to drive short cable lengths, max recommended length 1 metre (3 feet). Therefore use a network switch positioned close to the rear of the console to extend the cable length if required.

Vi2/Vi4 /Vi6

The HiQnet port is located on the rear of the Control Surface, adjacent to the MIDI ports. The port is capable of driving standard Ethernet distances of up to 100m.

Detailed Console Operation of VM²

Setting up and using VM² monitoring on a Vi Series console falls into four simple steps:

· Connect up the HiQnet network as described in the previous section and check that the IP address configuration is correct on all devices.

· Connect up the audio connections from the AKG Receivers to the console (either to Stagebox or local inputs as appropriate).

· Associate each AKG receiver with a console connector using the mapping table in the Vi's HiQnet Setup page.

· The microphone monitoring information will now automatically be displayed on any channel strip which uses an AKG-mapped physical input connector as its patched source.

The following pages describe in more detail how to carry out the second two steps. Note: Screenshots shown are for Vi2/4/6. Vi1 will have same controls but layout will differ).

Using the Console's HiQnet Setup page to set up an IP configuration

Press the MENU button, select the System tab, then the HiQnet tab to access the Setup page.

Configuring the IP Address
Ensure the console's HiQnet port is connected to the HiQnet network, and use the IP Config and IP address controls to set up a valid IP address for the console.

If you wish to set the IP address and subnet manually, set the IP CONFIG Vistonics control to 'MAN'. Use the IP ADDRESS and SUBNET MASK Vistonics controls to enter a valid configuration and then press the 'SET' button within the IP CONFIG control.

The available ranges of valid IP addresses are listed below:
Note: Some IP addresses within the ranges show are not allowed due to conflicts with other parts of the Vi system – they will be greyed out and not available for selection.

10.0.0.0 - 10.255.255.255
172.16.0.0 - 172.31.255.255
192.168.0.0 - 192.168.255.255

If you are using a DHCP server to automatically configure the IP setup, set the IP CONFIG Vistonics control to 'DHCP'. Wait for several seconds until an IP address appears in the IP ADDRESS Vistonics control fields. When a valid address is established you will also see it on the far left of the HiQnet page.

At this stage, all the controls in the HiQnet Vistonics section will be greyed out, indicating that HiQnet is disabled.

Setting the HiQnet Node Address

Before enabling HiQnet, use the HIQNET ADDR Vistonics control to set a suitable HiQnet node address for the console. The HiQnet node address can be any number in the range 1 – 65,535 but it must be a unique number within the network in order to avoid conflicts with other HPro devices.

You will need to use System Architect to find out what the node addresses of other equipment are to ensure there are no conflicts. The Vi node address will be set to a default value of 2717 unless it has been changed previously, and may be left at this address as long as this is not already being used elsewhere in the network.

To set the HiQnet address, press the button within the HiQnet Address Vistonics control (see screenshot on previous page). A keyboard will be opened which will allow the default address to be edited.
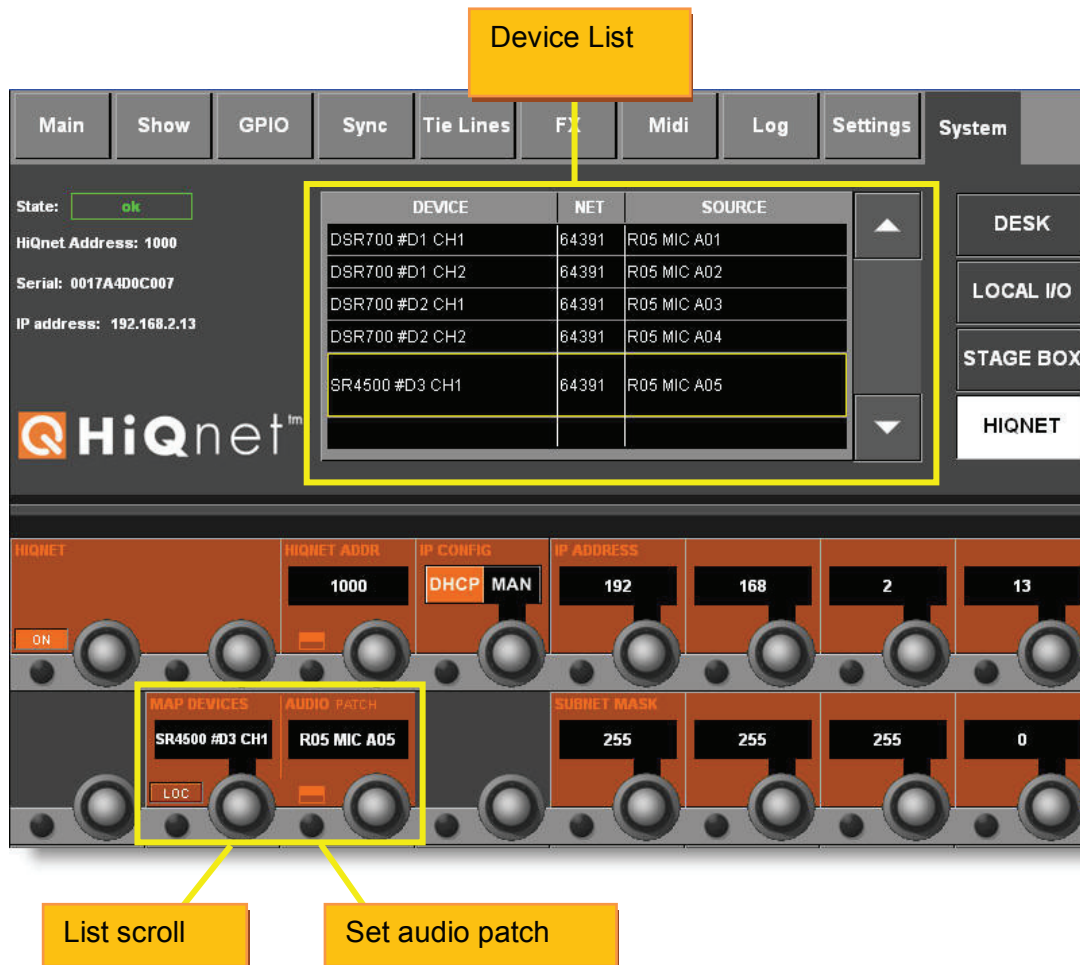
Note that it will take up to 10 seconds for the new address to appear after the Enter button on the keyboard is pressed, and the console will be unresponsive during this time –this is normal.

Once the IP address is set and the HiQnet node address has been confirmed as unique in the network, you can enable the HiQnet functionality by pressing the ON button in the far left Vistonics control.

Enabling HiQnet will cause all the Vistonics controls in the section to change from greyed-out to orange. A list of information relating to the current HiQnet setup including a green 'OK' indicator is now displayed on the left side of the HiQnet Setup page, indicating a healthy connection.

Using the Device List

Device List

List scroll

Set audio patch

Device List

The Device list occupies the centre of the HiQnet Setup page, and will initially be completely empty. Once HiQnet has been turned on, and a HiQnet network is attached to the console, the console will search for any attached AKG microphones and display a list of the microphones found on the network in the left-hand column of the Device List. Note: It may take up to 30 seconds to discover the mics.

The DEVICE column shows the names of all of the AKG microphones that have been discovered on the network. This column is automatically populated.
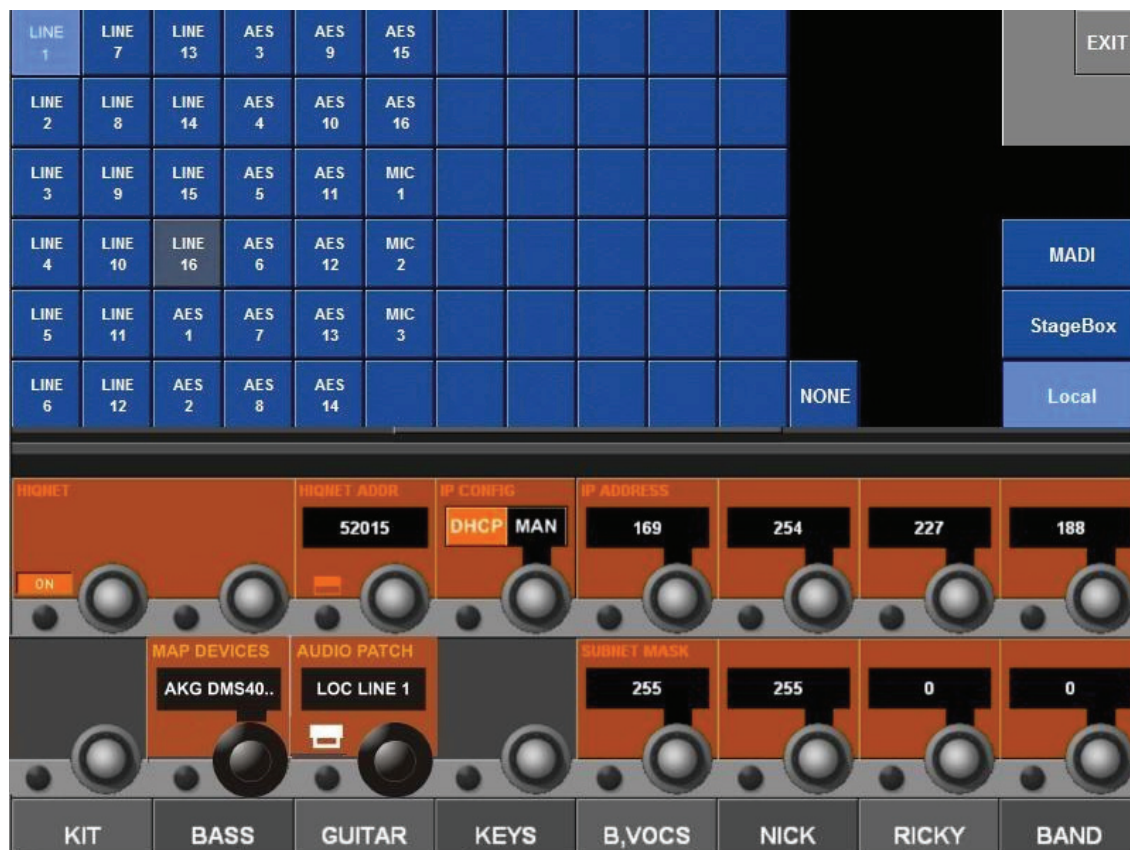
The NET column in the list shows the HiQnet node address of the AKG Hub4000Q to which each microphone is connected. In the example shown above there is only one Hub4000Q connected, but it is possible for multiple Hub4000Qs to be connected to the network, and in this case the number in the NET column will enable groups of mics attached to these different Hubs to be distinguished from one another.

The SOURCE column in the list indicates the connector to which each microphone is associated. In order for the console to know on which channel strip to display the VM^2 monitoring information, it is necessary to associate each of the microphone devices with a physical connector, which will correspond to the connector that the microphone's audio output is connected to.

The LOC button activates the Locate function on the selected AKG receiver. Pressing this will cause the front panel display of the chosen receiver to flash, allowing it to be more easily identified among a rack of others.

Associating the Microphones with Audio Connectors

Use the MAP DEVICES Vistonics control to scroll the list and select a microphone, then press the AUDIO PATCH button to open the patching matrix.

The patching matrix allows all of the physical input connectors available within the Vi system to be seen and the relevant connector to be chosen to correspond to where the currently selected microphone is connected. The chosen connector is shown in bright blue highlight, whereas connectors that are already associated with other AKG devices are shown as greyed-out.

A greyed-out connector can still be chosen as an assignment for the currently selected microphone, but a dialogue box will appear in this case to ask if you wish to reassign this connector.

Hint: To avoid opening and closing the Audio Patch page, the MAP DEVICES encoder can still be used to scroll through the Device List even whilst the Audio Patch page is still open. The name (truncated) of the currently selected Device can be seen in above the MAP DEVICES Vistonics scroll encoder.

When all the assignments have been made, close the Audio Patch page by pressing EXIT button on the screen, or pressing the Vistonics button in the AUDIO PATCH control field.

Returning to the Device List, you should now have a list of devices with all three columns indicating information in this format:

AKG Device name   Hub4000Q   Audio Patch assignment
                   node address

Using the Monitoring Information Display on the Channel Strips

Once the Device list has been populated with discovered Microphone devices, and audio patch connectors have been assigned to these, the Monitoring information will automatically be displayed in the channel strips where those audio patches are used.
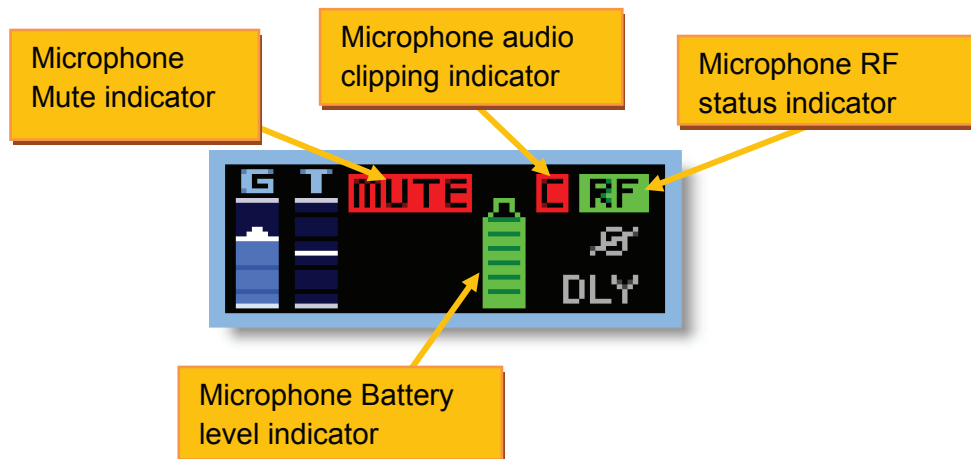The screenshot below has the first three channels with AKG mics assigned, and shows the location of the AKG Monitoring info.

The Monitoring elements initially appear as mini-icons within the Input section at the top of the Channel Strip, as shown in this screenshot:

Note that the names of the AKG microphones appear in the channel label display at the bottom of the channel strip.

In more detail, the elements that are added to the input channel overview are as follows:

The displayed Microphone monitoring elements shown on previous page provide the following functions:

Microphone Mute status indicator
Shows red 'MUTE' icon if the AKG mic is switched to muted state.
When unmuted, this indicator icon disappears.

Microphone Audio clipping indicator
A red 'C' is displayed momentarily if the audio within the wireless mic audio path reaches full scale.

Microphone RF status indicator
A red or green 'RF' icon is displayed to indicate the health of the AKG RF level.

A green RF indicator is displayed when the signal strength at the receiver is strong enough to enable audio transmission. A red RF indicator is displayed when the signal strength is too low for audio transmission. Note: If the microphone transmitter is switched off, the RF indicator will also change to red, as the system is unable to tell the reason for the lack of RF.

The actual value in dB of the RF signal strength is displayed in the Vistonics detailed monitoring information display (see next page).

Microphone Battery level indicator
A red or green battery level icon indicates the health of the battery within the AKG wireless transmitter.
The interior of the battery icon contains 7 segments showing varying battery level. The colour coding of the battery icon is as follows:

Green	Segments 3-7	35-100% remaining
Amber	Segment 2	25% remaining
Red	Segments 0-1	1 hour remaining

The number of hours remaining in the transmitter battery is displayed in the Vistonics detailed monitoring information display (see next page) and varies with the type of battery used.

Network Error display

The microphone status indications are only valid if they are being transmitted by a HiQnet network therefore it is useful to know whether there are network problems. The system is able to differentiate between a network error/disconnection and for example out of range RF or switched off transmitter. In the case of a network error, the AKG elements only within the input strip overview on all channels will change to a greyed-out condition as shown below:

If the network is disconnected, or there is a network connection error, the following diagnostic indicators are also available:
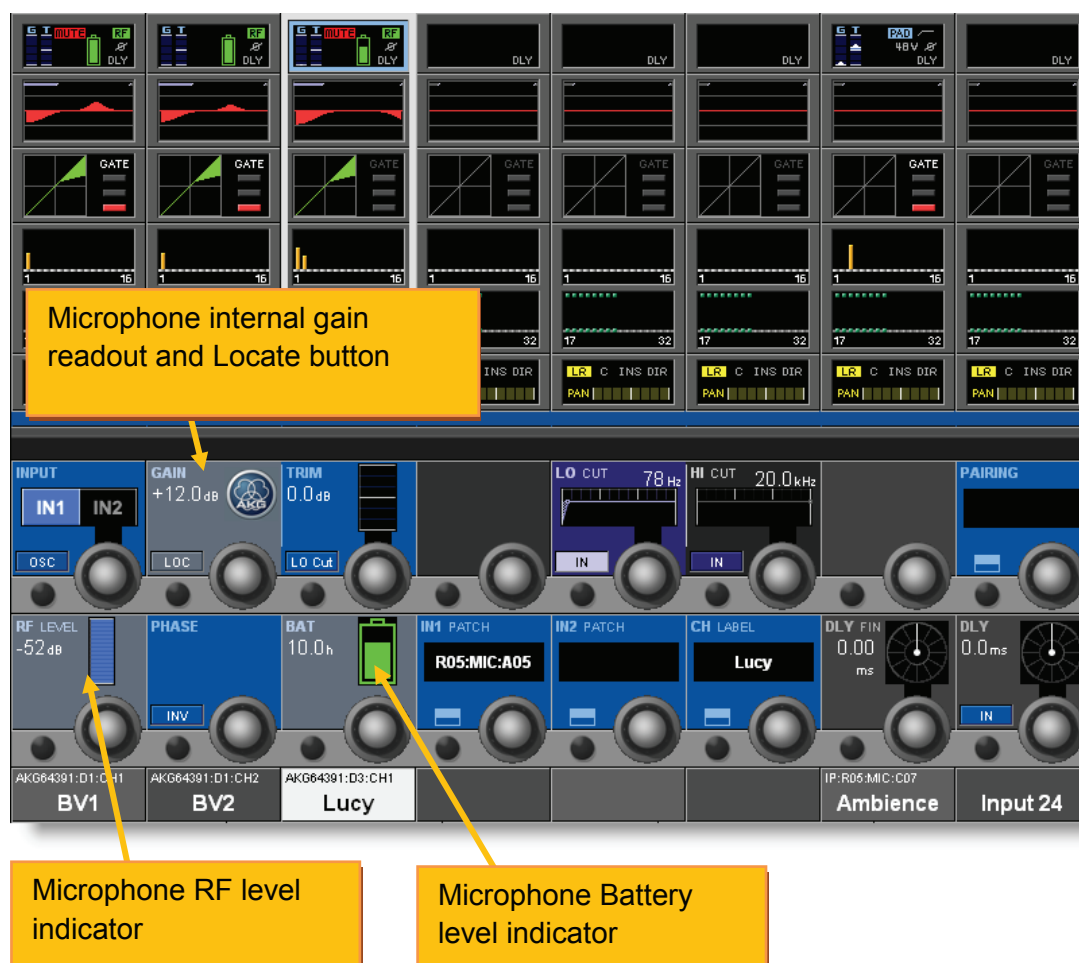
· 	AKG devices in the Device List in the HiQnet Setup page will also appear greyed out.
· 	If the network is disconnected between the console and the router, the HiQnet icon in the main console diagnostic display area will change from green to grey.

Vistonics Detailed Monitoring Display

To see more detailed information about the AKG Microphones, the Input section of the channel strip can be zoomed by touching the Input touch field at the top of the strip.

Three special Vistonics fields are added to the zoom view of channels that are patched to AKG-associated connectors, giving more detailed information of RF level (bargraph and numerical signal strength in dB), Battery level (bargraph icon plus numerical readout of remaining battery life in hours), and the internal gain of the microphone.

Note that this information is display-only, there is no control possible over the AKG microphones, other than the Locate button. Note also that the input gain control of the Vi microphone input preamp will be automatically set to 0dB gain and is not available for control on channels that have AKG microphones assigned.

Microphone internal gain readout and Locate button

Microphone RF level indicator

Microphone Battery level indicator

The display of internal Gain of the AKG microphone differs according to the type of microphone system being monitored (Note: this cannot be controlled from the console – it is a display of the microphone's internal parameter only!)

- · *On WMS4500 systems: Displays the current value of the user-adjustable audio gain of the transmitter.*
- · *On DMS700 systems: Displays the output trim level of the receiver.*

The remaining battery life numerical info in hours is only a guide, and depends on the type of cells used. The battery icon gives an accurate picture of the current state.

TROUBLESHOOTING A VM² SETUP

Problem

HiQnet cannot be switched ON in the Menu-System-HiQnet page because there is no IP address.

Solution

1. Check the cable connection to the HiQnet port on the console – if there is no valid Ethernet connection, it will not be possible to switch on the HiQnet functionality.

2. Assuming cable connection is OK, if DHCP mode is selected on the console, check that the router that is being used has a DHCP server capability and that this is enabled in the router setup.

3. It is possible to connect the console directly to the Hub4000 without a router, with the console set to DHCP mode. In this case there will be a considerable delay (up to 60 secs) before an IP address is allocated, as this has to be negotiated between the console and the Hub.

4. If using a manually set address, the console's IP address must have the same subnet mask as the Hub4000Q, so System Architect must be used to discover what that is. Once the address is known, set the console to a different address but with the same subnet mask.

Problem

No AKG receivers are detected by the console – the list on the HiQnet page is empty

Solution

1.Check that all AKG receivers are connected to the Hub4000Q, the Hub4000Q front panel LEDs show connection status of the attached receivers, and there is a network connection between the Hub4000Q and the console (via a network switch if necessary)

2. Check that the IP Config of the console and the Hub4000Q match – if using a router with DHCP server and you do not want to use a manually set IP address, make sure the console is set to 'DHCP' mode in the Menu-System-HiQnet page.
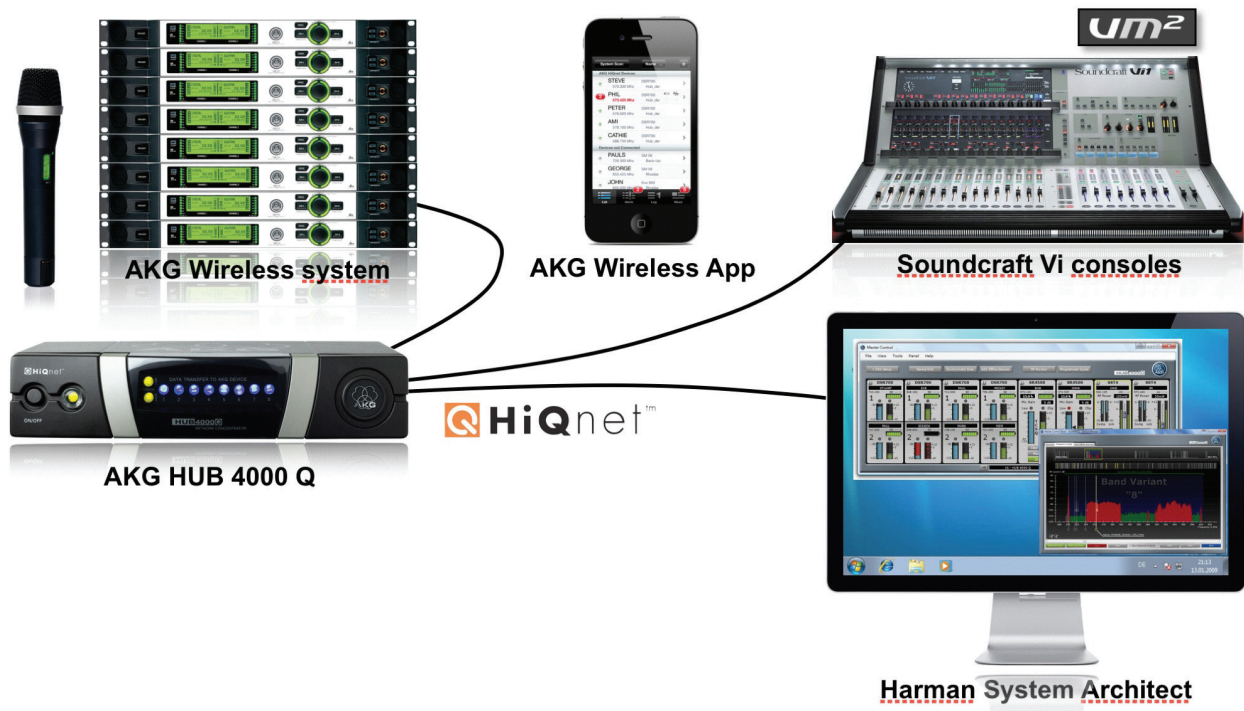
Problem

The AKG receivers are listed in the Device list on the HiQnet page are greyed out.

Solution

This indicates that there is a network connection has previously existed correctly but there is now a connection error – either the Hub4000Q has been disconnected or switched off, or there is another connection problem between the Hub and desk or router and desk. Check all network connections.

FAQs - AKG Wireless Systems

HiQnet® Remote Control and Setup

These Frequently Asked Questions (FAQs) may help if there are issues with working or setting up the HUB 4000 Q.

The FAQs help you to get started quickly with setting up and remote control of your **AKG wireless system** with the PC software **Harman System Architect™**, the **AKG Wireless iPhone® App** and **Soundcraft Vi consoles VM²** feature based on **Harman HiQnet®** protocol using the **HUB 4000 Q**.

If you have further questions check out the quickstart guide and manuals which can be found online at http://www.akg.com/hiqnet.

If you need further help please send an email to hiqnet@akg.com.

FAQ 1: How do I setup my HUB 4000 Q(s) and my wireless system together with System Architect/AKG Wireless iPhone App?

See **Quick Start Guide steps 1 - 3** and **FAQs**.

FAQ 2-1: System Architect starts up and no HUB 4000Q is detected!

If the HUB 4000 Q is not showing up at HiQnet Explorer, System Architect has no network connection to the HUB 4000 Q.

Possible reasons:

- *The HUB is physically not connected to the HiQnet network*
  → check your ethernet/network cables and check if your router and/or switches are powered on
  → If you connect the HUB 4000 Q directly to your PC than you have to use a crossover network cable

- *The HUB 4000 Q is not powered on*
  → check the power connection of the HUB 4000 Q

- *The HUB 4000 Q has no or wrong IP address/subnet settings*
  → See **FAQ 3**

FAQ 2-2: AKG Wireless iPhone App shows no list entries/devices at it's main list screen!

→   See **FAQ 2-1**

FAQ 2-3: Soundcraft Vi console VM2 shows no list entries/devices at it's HiQnet list screen!

→   See **FAQ 2-1**

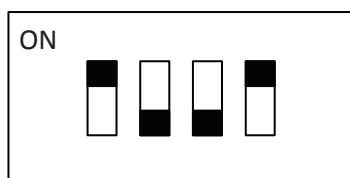**FAQ 2-4: What are the minimum requirements for a PC running System Architect?**

- Windows 7, Windows Vista, Windows XP SP2, Windows 2000 SP4 or Windows 2003 Server SP1, Windows 7
- Only 32 bit Windows operating systems are supported
- Processor - 2 GHz (Dual Core)
- RAM - 2 GB
- Screen Resolution - 1024x768
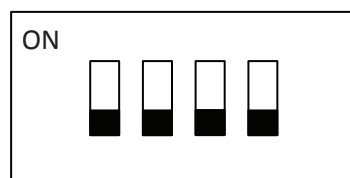- 200 MB Hard Drive space available

FAQ 3: My HUB 4000 Q has wrong network settings!

- Open **Network Troubleshooter**
  at System Architects – *Ribbon/Tools/Network/Network Troubleshooter* – and follow the instructions.

- If the Network Troubleshooter doesn't help open **Readdress Devices**
  at System Architects – *Ribbon/Tools/Network/Readdress Devices*

- The **Readdress Devices** panel is opened. There you can configure your devices network settings.

- If all of your HUB 4000 Qs are powered on and connected to the HiQnet network and no HUB 4000 Q is shown in the list at the **Readdress Devices** panel, your HUB 4000 Q has no network connection to System Architect (detection of devices needs up to 60 seconds).

- Please follow these steps:

  o On the right side of the HUB 4000 Q, behind the AKG logo, a DIP switch can be found which changes the IP address negotiation. Set the DIP switch to the following setting:

  ```
  ┌─────────────────────┐
  │ ON                  │
  │  ▉   □   □   ▉      │
  │  □   ▉   ▉   □      │
  └─────────────────────┘
  ```

  DIP 1, 4: ON - DIP 2, 3: OFF

  o Power cycle the HUB 4000 Q (Switch the Power OFF and ON)

  o Wait till the 8 slot LEDs went from the left and right side to the middle and back again periodically.
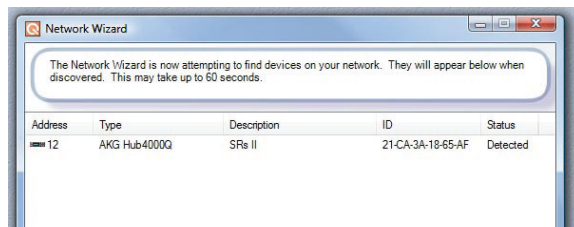
  o Set the DIP switch to the following setting:

  ```
  ┌─────────────────────┐
  │ ON                  │
  │  □   □   □   □      │
  │  ▉   ▉   ▉   ▉      │
  └─────────────────────┘
  ```
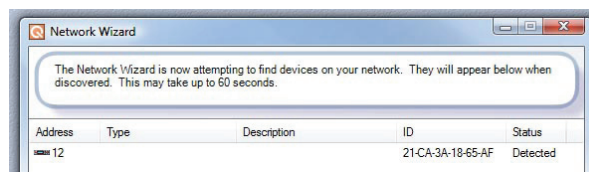
  DIP 1, 2, 3, 4: OFF

  o Now the HUB 4000 Q starts first with trying to find an IP address with DHCP. If the HUB 4000 Q doesn't get an IP address over DHCP (if no DHCP server is connected to your HiQnet network) the HUB 4000 Q tries to get an IP address with AutoIP (IP range 169.254.1.1 to 169.254.254.255 with a subnet mask 255.255.0.0)
    → **The data LED is blinking periodically every second.**
    → **All slot LEDs are off.**
    → The address negotiation can take up to 5 minutes.

HUB 4000 Q – FAQ

- Now the HUB 4000 Q should have a valid IP address
    → **The data LED is showing the network traffic (it should blink non periodically and very fast)**
    → **The slot LEDs are ON if a AKG Device is connected**

- If the HUB 4000 Q has a valid IP address, the **Readdress Network** panel should show up a new entry with your HUB 4000 Q because System Architect has now a network connection to the HUB 4000 Q

    o If the new entry has also entries at columns '*Type*' and a '*Description*' the network is configured right (see following picture).
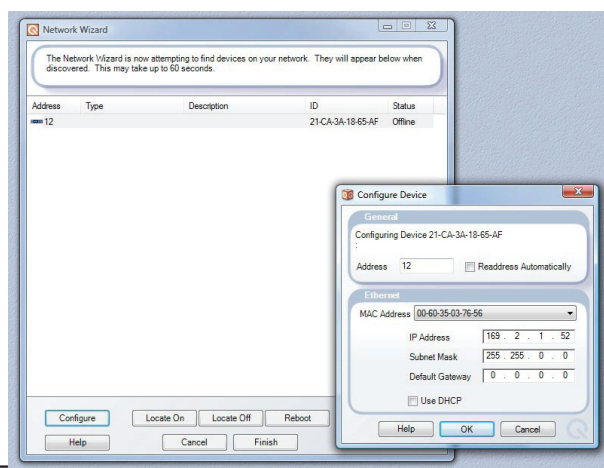

    o **You can now start working with System Architect/AKG Wireless iPhone App, VM2, HUB 4000 Q and the AKG wireless system.**

    o If the new entry has NO entries at columns '*Type*' and a '*Description*' the IP address and subnet settings of the HUB 4000 Q are wrong.

    Please follow the next steps:

- Double click on the list entry or click the Configure Button at the bottom of the **Readdress Devices** panel:

- The Configure Device Dialog is opened. At this example the Device has the IP address **169.2.1.52** and is in the subnet **255.255.0.0**. The computer has in this example the IP address **192.168.1.1** and the subnet **255.255.255.0**.

HUB 4000 Q – FAQ

That means that the device has the wrong IP address and subnet. - See **FAQ 6-1**

- Now you can check the *Use DHCP checkbox* if you want to use a DHCP server for getting a valid IP address and subnet from the DHCP server

- Configure your PC operating system for retrieving automatically an IP address and subnet – See **FAQ 14**

- Or you type in a static IP address and subnet by hand, for example IP address 192.168.1.10 and subnet 255.255.255.0. See **FAQ 6-2**.

- Click OK and your HUB 4000 Q should have now the right IP address and subnet. The PC and the HUB 4000 Q should be now in the same subnet and should have valid and unique IP addresses

- Now the HUB 4000 Q should show up at **Readdress Devices** panel. The HUB 4000 Q is now configured right and should show up also at the HiQnet Explorer and can be used at the Venue View

Please also refer to System Architect Online help for further information on how to set-up a HiQnet^TM network.

Chapter '**Troubleshooting**' – Section '**Missing Devices**'

FAQ 4: If my HUB 4000 Q is shown at Venue View, System Architect asks me to perform a firmware update of my HUB 4000 Q.

If you have downloaded a new version of System Architect and start System Architect and a HUB 4000 Q is detected you have to perform a firmware update.

Mixed configurations of an old HUB 4000 Q firmware together with the newest System Architect versoin are not supported. It is recommended to use always the latest version of System Architect which also includes the latest versions of HUB 4000 Q firmware.

Please download the latest version of System Architect from

http://hiqnet.harmanpro.com/downloads.php

FAQ 5: What is the IP address range of the HUB 4000 Qs AutoIP?

The IP range for the Auto IP function of the HUB 4000 Q is 169.254.1.1 to 169.254.254.255 with a subnet mask 255.255.0.0.

FAQ 6-1: What IP address is used by the HUB 4000 Q?

The IP address negotiation of the HUB 4000 Q depends on the DIP switch setting of the HUB 4000 Q. Also see **FAQ 6-2, 6-3, 6-4, 6-5**.
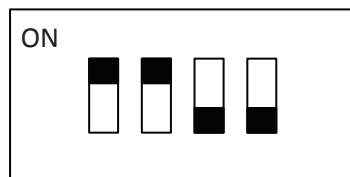
DIP switch settings:

On the right side of the HUB 4000 Q, behind the AKG logo, a DIP switch can be found which changes the IP address negotiation. DIP switch changes take only effect after the HUB is power cycled. It is recommended to use the default DIP switch setting (all switches OFF). This setting uses the stored IP address setting.
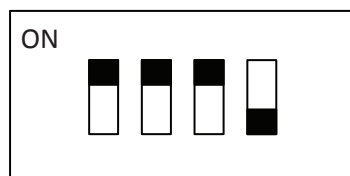
Configuration 1:

DIP 1, 2, 3, 4: OFF

Default, recommended configuration:

-   Use stored settings – Uses System Architect settings
-   At shipping – first start up: DHCP & AutoIP
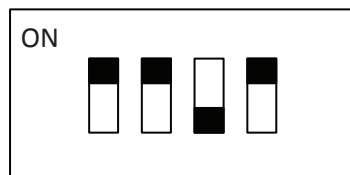
Configuration 2:

DIP 1, 2: ON - DIP 3, 4: OFF

-   DHCP & AutoIP – Overrules System Architect setting

Configuration 3:

DIP 1, 2, 3: ON - DIP 4: OFF

-   DHCP only – Overrules System Architect settings

Configuration 4:

HUB 4000 Q – FAQ

DIP 1, 2, 4: ON -DIP 3: OFF

-    AutoIP only – Overrules System Architect settings

FAQ 6-2: What IP address and subnet should i choose?

Normally the PC with System Architect, Wireless iPhone app or Vi console with VM2 are supposed to operate in the same HiQnet LAN (Local area network) as the AKG HUB 4000 Qs.

This means that the IP address of the PC, iPhone or Vi consoles must in the same subnet as the HUB 4000 Qs IP addresses. So for proper operation all subnets of all devices in the HiQnet LAN must be the same.

It is strongly recommended to use an **Ethernet DHCP router** in your HiQnet network. If you connect a DHCP network router (which has a built in DHCP server for automatic IP address management in your ethernet network) setting up the system is much more easier and faster because you don't have to care about IP addresses (that's done by the DHCP server inside your DHCP router).

Note: It is possible to operate several HUB 4000 Qs throughout several subnets from a single System Architect. This needs advanced network configuration and is only recommended for advanced users. Please contact HiQnet@akg.com *for further assistance.*

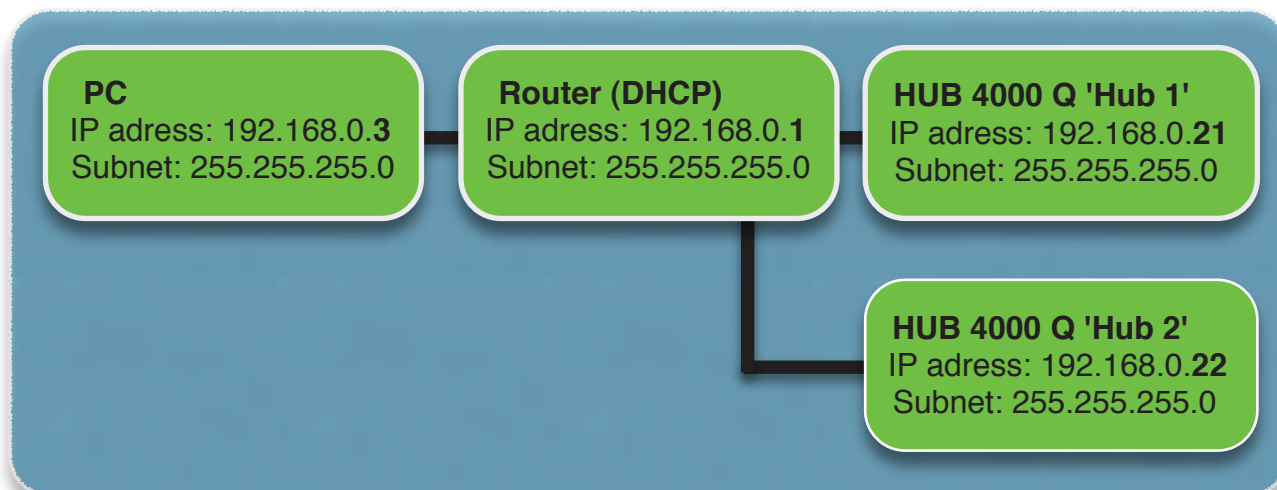**IP address:** Each device in a LAN must have a unique IP address

Subnet: The subnet defines the digits of the IP address which are unique in a subnet

EXAMPLE: If the subnet is **255.255.255**.0 The first **9** digits of all IP addresses in the subnet have to have the same numbers. They define the subnet. Only the last 3 digits of the IP addresses are allowed to be different.
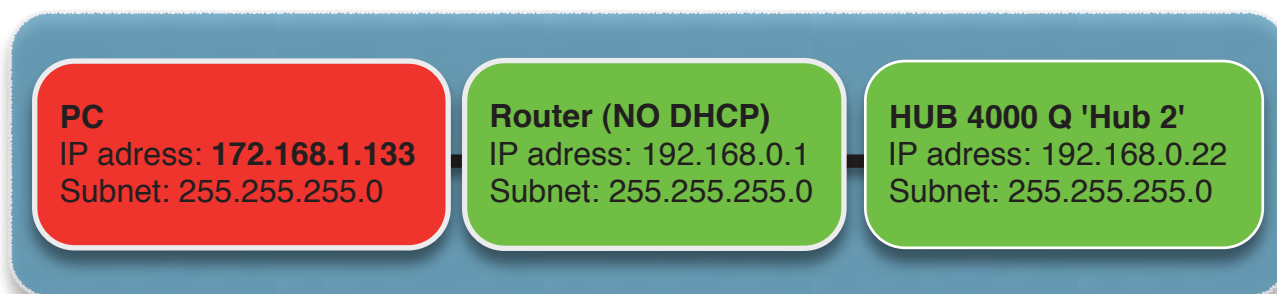
Devices with IP addresses like **192.168.0**.1, **192.168.0**.123, **192.168.0**.204 would be in the same subnet (The subnet is then **192.168.0.**xxx) whereas a device with a IP address of **172.168.0**.3 won't be in the same subnet as the first digits are not **192.168.0**.xxx

EXAMPLE: The following example shows a HiQnet system with a PC running System Architect, a DHCP router for automatic IP address management and 2 HUB 4000 Qs. All IP addresses and subnets are configured right. System Architect will discover the HUB 4000 Qs instantly and you are ready to work with the AKG wireless system.

| PC
IP adress: 192.168.0.**3**
Subnet: 255.255.255.0 | Router (DHCP)
IP adress: 192.168.0.**1**
Subnet: 255.255.255.0 | HUB 4000 Q 'Hub 1'
IP adress: 192.168.0.**21**
Subnet: 255.255.255.0 |

| | HUB 4000 Q 'Hub 2'
IP adress: 192.168.0.**22**
Subnet: 255.255.255.0 |

EXAMPLE: The following example shows a HiQnet system with a PC running System Architect, a router (DHCP turned off) and one HUB 4000 Q. The PC is in the right subnet but it's IP address is configured wrong. System Architect will not discover the HUB 4000 Q because there is no proper network connection between the PC and the HUB 4000 Q. The IP address of the PC should be **192.168.0.10**. Then the PC would be configured right.

| PC
IP adress: **172.168.1.133**
Subnet: 255.255.255.0 | Router (NO DHCP)
IP adress: 192.168.0.1
Subnet: 255.255.255.0 | HUB 4000 Q 'Hub 2'
IP adress: 192.168.0.22
Subnet: 255.255.255.0 |

FAQ 6-3: Do i need to configure my Windows firewall?

It is recommended to switch of your Windows firewall.

FAQ 6-4: How do i setup my network router?

Normally you can do this within your internet browser by typing in the IP address of your wireless router in the adress bar of internet explorer. By default most router use the IP address 192.168.0.1.

Please refer to the documentation/manual of your network router.
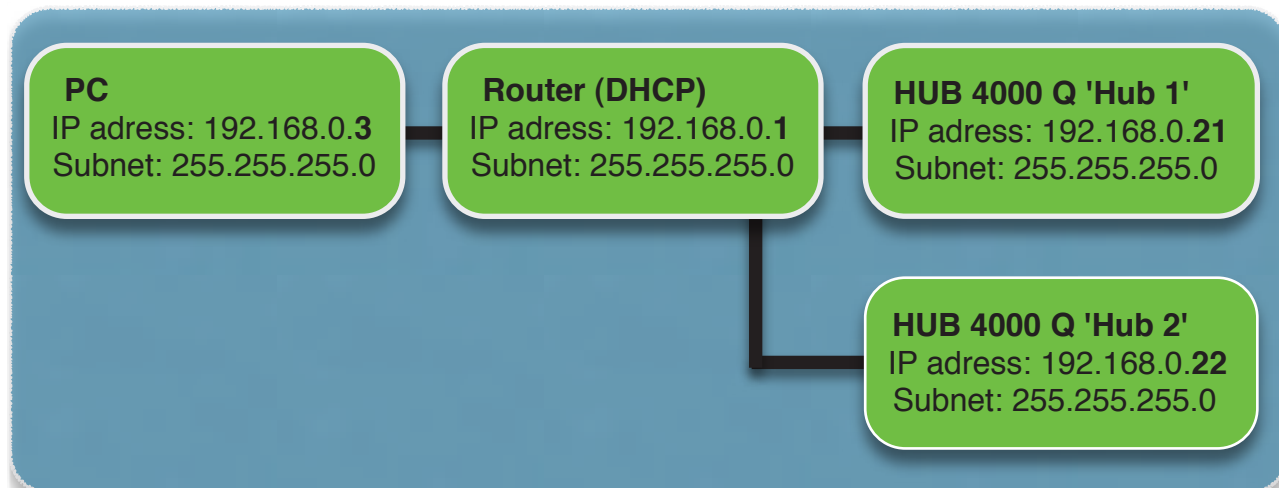
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FAQ 6-5: How should i configure my network?

There are multiple possible configurations which are possible. The three most common configurations are:

1 - PC, multiple HUB 4000 Qs, DHCP router

This is the recommended configuration. The PC is connected via a network router with DHCP to the multiple HUB 4000 Qs. The network router takes care of the IP address and subnet settings of the PC and HUB 4000 Qs.

Make sure that the PC and the HUB 4000 Qs are configured to receive IP settings via DHCP.
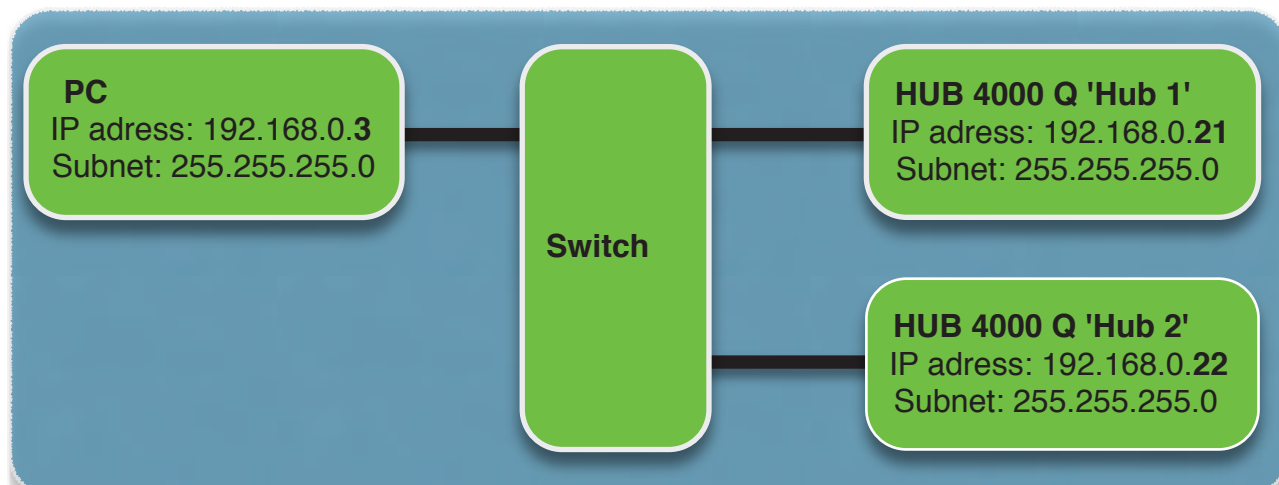
See **FAQ 3, 5, 6-1, 6-2, 6-4, 14.**

PC	Router (DHCP)	HUB 4000 Q 'Hub 1'
IP adress: 192.168.0.**3**	IP adress: 192.168.0.**1**	IP adress: 192.168.0.**21**
Subnet: 255.255.255.0	Subnet: 255.255.255.0	Subnet: 255.255.255.0

HUB 4000 Q 'Hub 2'
IP adress: 192.168.0.**22**
Subnet: 255.255.255.0

2 - PC, multiple HUB 4000 Qs, network switch

The PC is connected via a network switch to the multiple HUB 4000 Qs. The network settings must be set manually at the PC and HUB 4000 Qs.

Make sure that the PC and the HUB 4000 Qs have the right IP settings.

See **FAQ 3, 5, 6-1, 6-2, 6-4, 14.**

PC	Switch	HUB 4000 Q 'Hub 1'
IP adress: 192.168.0.**3**		IP adress: 192.168.0.**21**
Subnet: 255.255.255.0		Subnet: 255.255.255.0

HUB 4000 Q 'Hub 2'
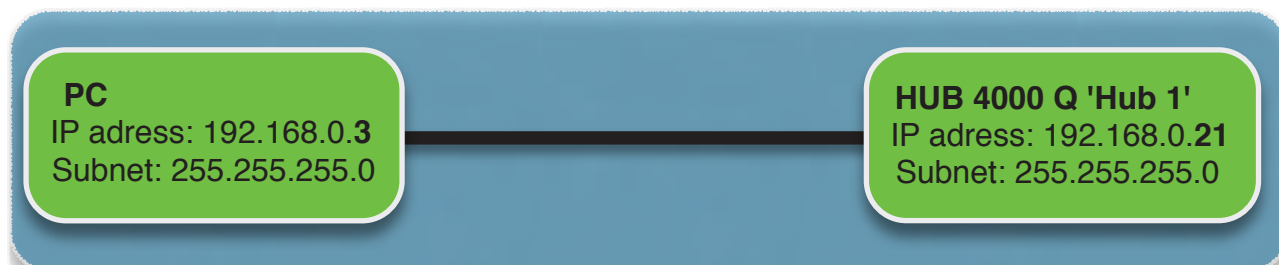IP adress: 192.168.0.**22**
Subnet: 255.255.255.0

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3 - PC, a single HUB 4000 Qs, connected via a crossover network cable

The PC is connected via a crossover network cable to a single HUB 4000 Q. The network settings must be set manually at the PC and the HUB 4000 Q.

Make sure that the PC and the HUB 4000 Qs have the right IP settings.

See **FAQ 3, 5, 6-1, 6-2, 6-4, 14.**

PC
IP adress: 192.168.0.**3**
Subnet: 255.255.255.0

HUB 4000 Q 'Hub 1'
IP adress: 192.168.0.**21**
Subnet: 255.255.255.0

FAQ 7: How long does it need till the HUB 4000 Q gets an IP address

Be aware that the complete IP address negotiation process can last up to 5 minutes.

The first time the HUB 4000 Q receives an IP address, the address is stored in the device's memory. The next time the HUB 4000 Q starts, the HUB 4000 Q uses the stored IP address if DIP switch configuration 1 was choosen (see **FAQ 6-1**). That saves a lot of start-up time.

FAQ 8: What is the functionality of the eight slot LEDs:

Each of the eight slots of the HUB 4000 Q has a dedicated blue slot LED on the front of the HUB 4000 Q. The slot LED is off if no device is connected to that slot. The slot LED lights nearly permanently (actually corresponding to the net-traffic) if a device is connected to the HUB 4000 Q and the device is turned on. If the device is turned off the slot LED blinks periodically to indicate that the device is turned off.

FAQ 9: I see 2 HUB 4000 Q at the Venue View, but if I click on one HUB 4000 Q icon I just can control one HUB 4000 Q.

To be able to control multiple HUB 4000 Qs from a single window you have to create a Master Control Panel. Read through **FAQ 10** about how to create a Master Control Panel.

FAQ 10: How can I control multiple HUB 4000 Qs within a single panel?

CREATE a MASTER CONTOL PANEL!
Select all HUB 4000 Q icons at Venue View which should be added to the Master Control Panel. Right click on one of the selected HUB 4000 Q icons. Select from the Context Menu 'Create Master Control Panel' – 'AKG HUB 4000 Q'. Then a Master Control Panel for all the selected HUB 4000 Qs is created. The Master Control Panel is able to control all AKG devices of all HUB 4000 Qs from a single panel.
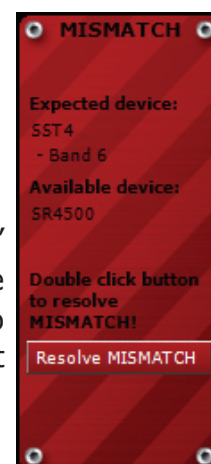
FAQ 11: After System Architect is coming online a stripe with red background is showing up on the HUB 4000 Q product panel

The red background of a Stripe indicates a **MISMATCH** between the physical device, connected to the HUB 4000 Q and its dedicated Stripe.

The Mismatch can be resolved in two ways:

1. **Resolve at System Architect:**

Double click on the Mismatching stripe at the 'Resolve Mismatch' button. The Mismatch will resolve by deleting the offline plug-in Stripe and retrieving all information of the physical AKG Device connected to the hardware HUB 4000 Q and creating a new matching Stripe for that physical AKG Device.

ATTENTION: All settings of the offline Stripe will be LOST!

2. **Resolve at the physical HUB 4000 Q:**

User can resolve the Mismatch by changing the physical AKG Device which causes a Mismatch.

The 'Expected device' label gives you information about the expected device which was configured offline. Take a note which physical AKG Device is expected with which Band Variant, at which Slot. Disconnect the Mismatching physical AKG Device from the hardware HUB 4000 Q and connect a physical AKG Device of the Device Type with the Band Variant of the expected physical AKG Device. The Mismatch at the plug-in will be automatically resolved.

FAQ 12: The HUB 4000 Q is going Online/Offline after some time – or – The Meters, buttons and other controls are not/or very slow reacting

See the **FAQ 13, 2-4**!

FAQ 13: The HUB 4000 Q is part of a Cobranet System and behaves very strange. The HUB goes Online/Offline, is not or slow reacting

If the HUB 4000 Q is part of a Cobranet System the network settings must be set very carefully. If Cobranet Broadcast messages/streams are used the HUB is spamed with these messages and cannot receive or send HiQnet messages fast enough.

It is recommended to setup a separated VLAN for all HiQnet devices like the HUB 4000 Q and a separate Cobranet VLAN. Then the Cobranet messages are not received from the HUB 4000 Q.

You can also use networkswitches which support Ethertype filtering and filter the Cobranet Ethernet messages at the port of the switch to which the HUB 4000 Q is connected.
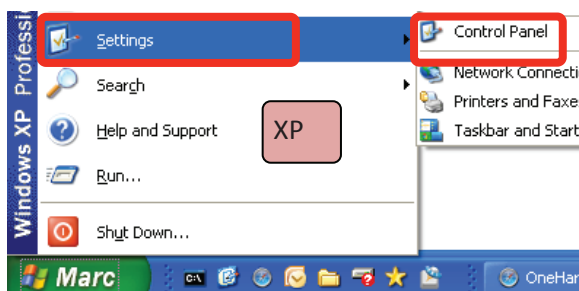
If you need further help on this issue please contact: hiqnet@akg.com

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FAQ 14: How can I set the IP settings of my PC?

- The IP settings of your PC can be found at the Windows Control Panel/Network Settings.
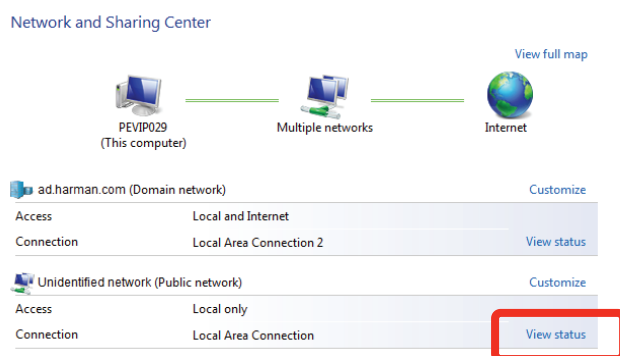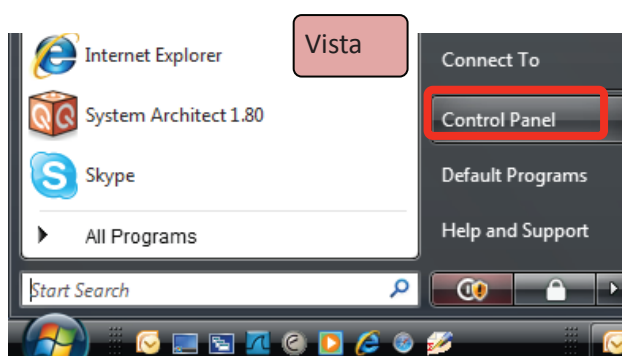

o **Windows XP:**

- Click *Start Button/Settings/Control Panel*

- At *Control Panel* click at *Network Settings*

- At *Network Settings* double click the HiQnet network

o **Windows Vista:**

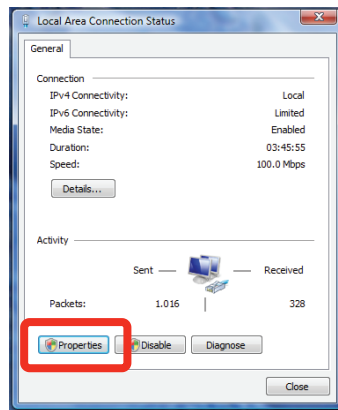- Click *Start Button/Control Panel*

- At *Control Panel* click on '*Network and Sharing Center*' and click on the '*View status*' link of the HiQnet network (*Unidentified network* at this example)
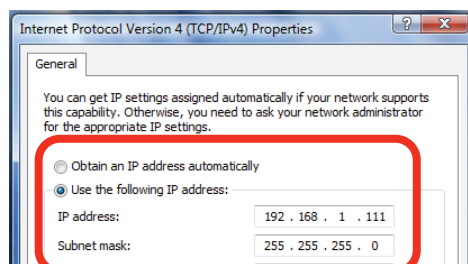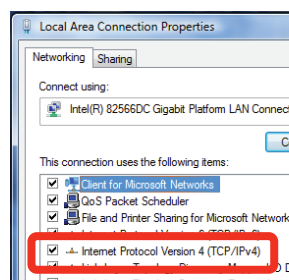
o **Windows 7:**

- Click *Start Button/Control Panel*

- At *Control Panel* click on '*Network and Sharing Center*' and click on '*Connections*' link of the HiQnet network

- This opens the *Local Area Connection Status* panel. Here you can see the status of your network.

- Click at the *Properties* Button

- Double Click at the *Internet Protocol 4 (TCP/IPv4)* entry

- At the *Internet Protocol Version 4 (TCP/IPv4) Properties* panel you can set the PCs network settings for this network.
  If you choose '*Obtain an IP address automatically*' the PC tries to get an IP

HUB 4000 Q – FAQ

address with DHCP or AutoIP.
You can also define a static IP address and subnet at '*Use the following IP address*'. See **FAQ 6-2** for more information about setting an IP address

FAQ 15: System Architect crashes when starting 1 Click Setup!

System Architect 1 Click Setup only works with 32 bit versions of Windows operating systems. With 64 bit versions of Windows operating system System Architect is crashing when launching 1 Click Setup. This issues is known and AKG is working on a solution to fix it.

FAQ 16: Environment Scan doesn't work, or is very slow!

Normally your PC doesn't fullfil the minumum requirements if environment scan doesn't work. Please check your PCs specification and the minumum requirements at **FAQ 13+2-4**.

FAQ 16-2: At devicegrid at column 'Band' 'RF Error' is shown! At Stripe Info Menu ,'RF Error' is shown!

This means that the band is not supported by System Architect. Please contact HiQnet@akg.com for further assistance.

FAQ 17: SST 4 is not able to scan!

The SST 4 is a stereo stationary transmitter of an In Ear Monitoring system which means that it is only able to transmit RF signals. It cannot receive RF signals and for that reason it is not able to perform an environment scan. If you want to perform an environment scan at the bands of your SST 4s you need to connect either SR 4000/4500 or DSR 700 to your HUB 4000 Qs.

FAQ 18: I cannot update the firmware of SR 4000!

The firmware of SR 4000 cannot be updated due to technical reasons.

FAQ 19: After loading a venue file audio and RF meters are not working any more!

This is a known issue. AKG will fix this bug as soon as possible. However closing all Custom control panels and docking and floating the product panel or master control panel solves the problem.

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