Pro9

Headset System
Installation Manual

Quail digital

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installation video

This guide specifies how the Pro9 headset system should be installed and commissioned. The LEDs on the base and headset use a sequence of colours, flashes and pulses to indicate the status of the system and the item, which are explained in this guide.

CONTENTS

Preface

Quail Digital Pro9 is a wireless headset system designed to facilitate order-taking in the drive-thru lane of a quick service restaurant. Team members wearing wireless headsets communicate with customers through a remote order point containing a microphone and speaker which activate on arrival of their vehicle at the post. Headset users can communicate with the customers, and on a private channel, with each other. The system uses the internationally approved DECT telephony standard and specification for transmission. Page 30 of this manual lists the Pro9 system components. The sale, installation and support of the product is undertaken by organisations and individuals known to or appointed by Quail Digital.

Introduction

This manual is aimed at the technician level reader who is expected to be familiar with all safety precautions relevant to the use of electrical equipment.

The Pro9 system differs from other drive-thru headset systems as it is digital all the way from the order point to the headset. This improves audio quality, clarity and acts as a shield from external interference.

If you are unfamiliar with Quail Digital products, you are encouraged to watch our training films on this product before you start the installation and to follow the installation steps in the order presented in this guide.

The Pro9 system can be set up in three different configurations depending on the customer's requirements. These configurations are outlined below:

Multiple Order Taker

In Single lane Multi-order taker mode the default position is that all headset wearers remain in standby mode (double-flashing Green) until a vehicle arrives whereupon any headset can assume the role of order taker for that order. When the vehicle leaves the loop the headset drops the call and the returns to standby mode. All headsets hear the order taker conversation. No paging is possible when order being taken.

Dedicated Order Taker

In either Single, Dual lane or Tandem configuration, users select a dedicated order taker for each order point, with the other headsets being split between the appropriate lanes as runners. Runners can drill through to become a temporary order taker for either lane by holding the corresponding lane button, reverting back to runner in their original lane after the vehicle leaves. Lane 1 users (Green LED) can become a runner or order taker in Lane 2 (Blue LED) with a single button press (and vice versa). All headsets can hear paging.

Dual lane configurations can enact 'Single Order Taker' mode, which enables one order taker to cover both order points. To place the system into 'Single Order Taker' mode press the head icon button on the bottom of the Base Station. This allows the order taker to switch between lanes with a single press of the corresponding lane button. When the crew wish to revert back to 2 order takers the button on the base is pressed again.

4L System

This configuration enables a small flexible team of headset wearers to work with multiple lanes. The default position is that all headset wearers remain in standby mode until a vehicle arrives. An arrival chime in the headset indicates which order point to pick up, selecting the corresponding headset button. Any headset wearer can take or take over an order during the call. There is no paging on this version of the system. Runners can listen in to order taking by pressing the corresponding channel. For 4L installation and usage, please refer to the 4L Installation Manual.

Quail Digital uses direct burial Cat5 or ISP 22AWG Belden cable for the link between the order post and the base station and always recommends these solutions. Proprietary or recommended cables used by other headset suppliers have been tested with Pro9 and can be used if already in the ground (subject to testing).

What's in the box

- Pro9 Headset (Q-P9HS)
- Pro9 Base Station (Q-P9BS)
- Pro9 Charger (Q-P9CH)
- Pro9 Drive-Thru Module (Q-P9DTM)
- Pro9 Speaker & enclosure (Q-P9SPK)
- Pro9 Microphone & enclosure (Q-P9MIC)
- Acoustic foam (Q-P9FOAM)

(optional items)

- Pro9 Repeater (Q-P9RP)
- Pro9 accessory kit
  - Junction Box (Q-P9JB)
  - Auxiliary Connection Box (Q-P9ACB)
  - Network Termination Box (P9NTEXT or Q-P9NTINT)

Tools, cabling and equipment required

- Small terminal flat blade screwdriver
- Cordless drill
- Tape measure
- Spirit level
- Marker pen
- Cable strippers/diagonal side cutters
- Cat5 cable crimping tool
- Cat5 patch lead
- Cat5 cable tester
- Direct burial specification Cat5 or ISP 22AWG Belden cable
- RJ45 connectors (up to 4)
- Multimeter
- Stepladder
- Laptop or phone for setup

Single lane system overview

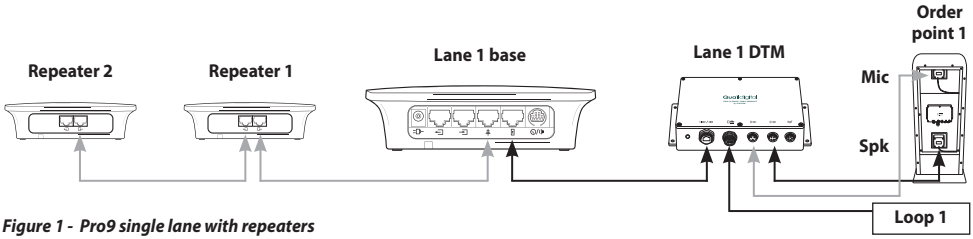


Figure 1 - Pro9 single lane with repeaters

Installation procedure

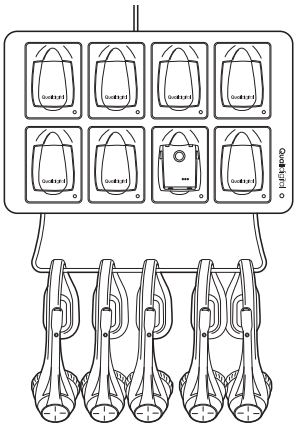


Figure 2 - Pro9 charger

Step 1 The 8-port charger, power supply and metal hanger are in the box (Q-P9CH). Wall mount the charger in the manager's office or other secure location close to a power socket using the template provided in the box. There are two key slots on the rear for mounting and one screw hole under the cap in the third battery slot from the left on the bottom battery row to secure the charger to the wall. Plug in the power supply lead to the charger feeding the cable through the securing gates. Attach the hanging bar before mounting to the wall.

Step 2 Plug the power supply into a mains socket. The power LED bottom right will illuminate RED. Insert each battery into a slot. The individual LEDs will be solid red when charging and turn solid green when fully charged. On occasion new batteries may get warm during charging. If this happens, the LED will go out and charging will stop to protect the battery until it cools down, this is normal.

Step 3 Remove the microphone (Q-P9MIC) and speaker (Q-P9SPK) from their boxes. The microphone is positioned against the top grill of the order point. Use the silver pre-drilled mounting bracket to fix securely where you can. There should be no gap between the face of the microphone and the grill, and the grill should have as many holes as illustrated in Figure 3. If it doesn't, consider drilling more holes to maximise the effectiveness of microphone.

Step 4 Place the acoustic foam provided around the microphone to provide extra acoustic protection.

Step 5 Use the same procedure as in Step 3 above to mount the speaker against the lower grill.

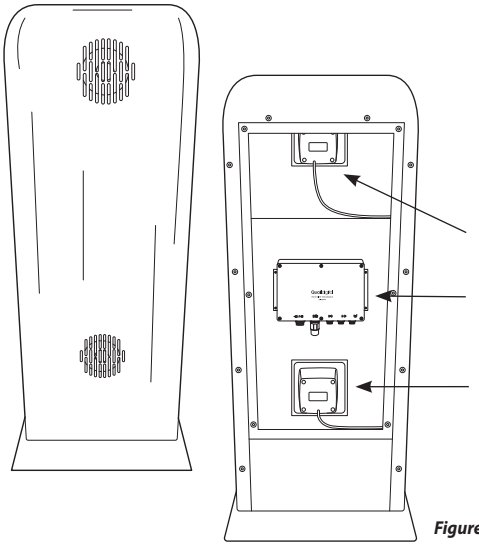


Figure 3 - Order point assembly

Step 6 Fit the Drive-Thru Module (Q-P9DTM) into to the order point using the flanges and four screws. If the DTM does not fit or cannot be mounted in the order point, go to Step 10.

Step 7 Install the cable from the DTM in the order point, through the existing underground conduit(s) to the likely location of the base station (Q-P9BS) in the kitchen area. Then, connect both ends of the cable to the internal and external network termination boxes. For Cat5 cabled sites refer to Appendix A (page 11).

Step 8 Plug in the black Cat5 cable and the speaker and the microphone to their respective sockets on the DTM as shown.

Step 9 Before connecting the loop to the DTM ensure you have checked the loop lead-in wires for continuity. If this test fails, check/ test or replace the loop as required. If the test is successful, proceed to connect loop lead-in wires to the screw terminals of the DTM as shown, remembering to fit the weatherproof cover provided.

Note: loop wire twists must be maintained up to the point of connection

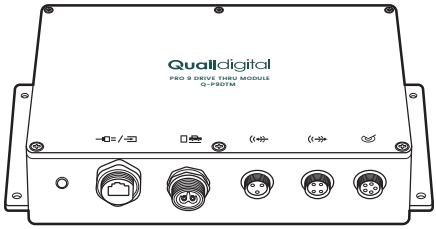


Figure 4 - Pro9 Drive-Thru Module (DTM)

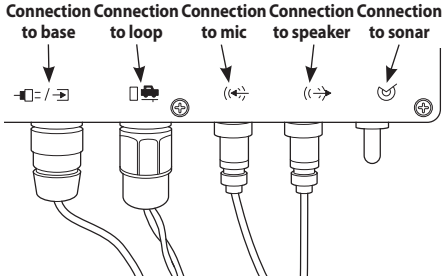


Figure 5 - Loop connection

Step 10 If the order point is physically too small to house the DTM or if the ambient temperature in the order point might exceed 40°C (104°F) on a regular basis, the DTM can be located internally. In doing so you will need to cut and remake the speaker and microphone connections using the Junction Boxes (Q-P9JB) - ordered separately. See Appendix C for this procedure.

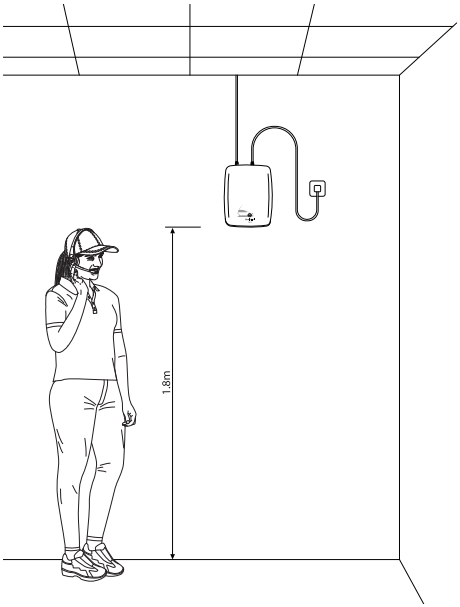


Figure 6 - Positioning the base station

Step 11 Choose a location to mount the base station with as much clear space around it to optimize the transmission range. Use the template to locate the fixing holes. The power supply should be close by.

If installing a Dual lane or 4L configuration, please refer to Appendix I (page 21) for further information.

Note: there are no user adjustable settings inside the base station

Step 12 If there is a lane timer and/or a chime speaker to be connected to the system, refer to Appendix D.

Step 13 Plug in the Cat5 cable from the internal junction box (Q-P9NTINT) into the base station. On powering up the base station, the speaker in the post will beep four times. This is the system carrying out checks to ensure that the speaker and mic are connected properly and operational. The LED will flash amber and then turn constant RED when ready and on standby. If the LED is flashing red or amber, see 'Trouble shooting' on page 26.

Step 14 Now register the headsets to the base station. Take the charged batteries and insert one into each headset. The headsets will pulse white initially then red when not registered. Hold the headset to the base station as shown. The LED on the end of the boom will fast-flash green during the registration process, then pulse green on and off when registered. Repeat this process one at a time until each headset is registered.

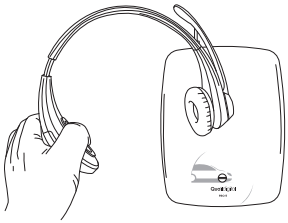


Figure 7 - Registering the headset

Step 15 To test the audio link to the order point, have someone go out to the order point. Press vehicle detection override on the base station. The microphone at the order point is live. Press T1 on the headset to talk with the person at the order point. When you've spoken and heard the person outside, the test is done. Press vehicle detection override again to de-activate it.

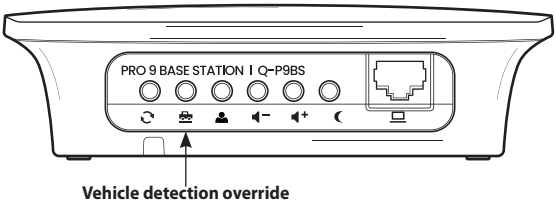


Figure 8 - Testing the audio link

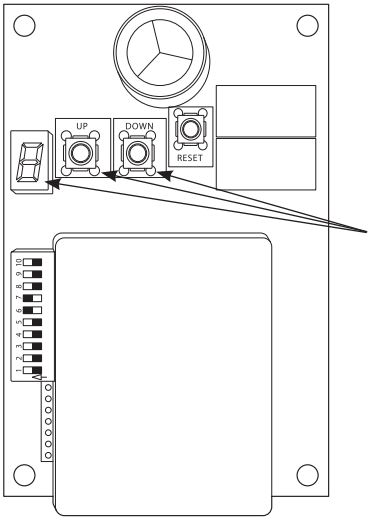


Figure 9 - Vehicle detector board, inside DTM

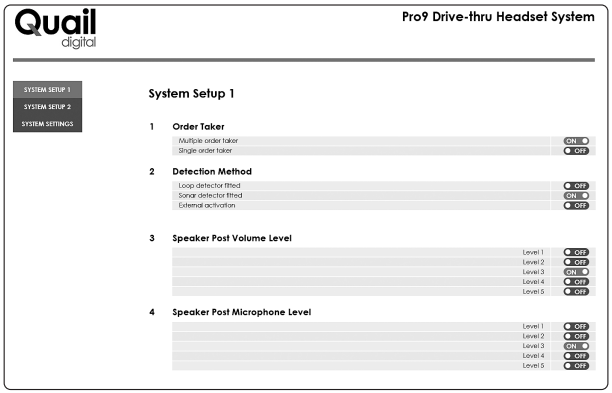
Step 16 Set the road loop sensitivity so the arrival of every vehicle is picked up accurately by the DTM.

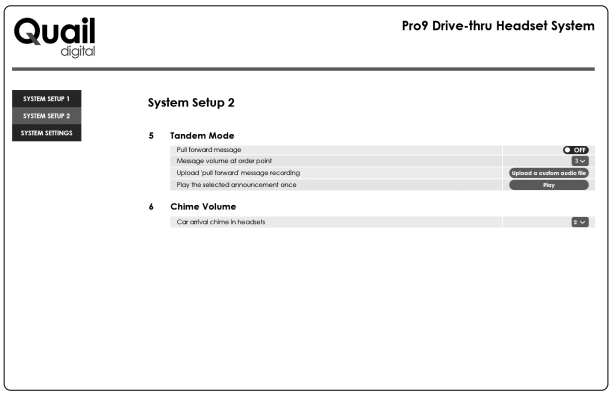
a. Remove the lid from the DTM and then park an average sized car (not SUV or van) on the road loop at the order point.

b. Identify the detector PCB in the DTM and then use the 'Up' and 'Down' buttons to adjust the displayed number to 5 from whatever it shows now.

c. Drive the vehicle off the loop and check the loop reading returns to '0' and when the vehicle returns back onto the loop make sure the number displayed is 5, then replace the lid.

Step 17 Now check the order point volume. The microphone level is pre-set and is unlikely to need adjusting by you, but the outbound volume through the speaker can be adjusted to suit the local environment. To do this you need to access the Pro9 settings menu as below which you do via your laptop or cellphone (see Appendix G and H for access).





Step 18 Ask someone in a vehicle to drive to the order point. You'll hear a beep in your headset to signify a car is at the order point.

Press T1, to talk, the headset will go into hands-free mode and the boom LED will go solid green.

While speaking with the person at the order point, ask them if the sound level is comfortable or too loud or too quiet. The default setting is usually fine.

You can change the volume levels as you see fit but be careful to judge whether the change will suit the everyday use of the system once the store is operating.

Step 19 While in the settings menu, ask the customer whether they wish to operate with a MULTIPLE order taker or DEDICATED order taker mode. The default is multiple order taker for single lane operation.

Step 20 Now explain the headset features to the customer:

In multi order taker mode: any headset wearer can take an order from the order point when they hear the car arrival beep. A single press of the T1 button puts the order taker into hands-free mode and the boom LED will go solid green. All other headsets hear the conversation. When the vehicle leaves, the call closes automatically and the LED boom will revert to double pulsing green.

If another user wishes to page other headsets, the user presses '*'. The boom LED turns white while the person is talking. Release to listen. When a vehicle is detected the red LED on the base splits showing GREEN on the bottom half.

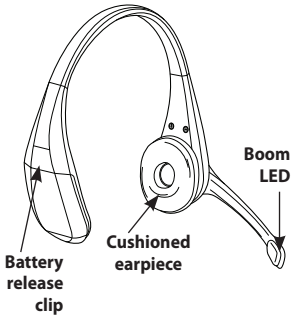


Figure 10 - Pro9 headset

In dedicated order taker mode: there is one dedicated order taker at any one time per lane. When the battery is inserted into the headset, headsets become runners in lane 1 as standard, indicated by a single green flash on the boom LED every 4 seconds. The selected order taker will press Lane 1 & Volume +/– to become order taker in lane 1, indicated by a double green flash on the boom LED every 4 seconds.

When a vehicle arrives, all headsets will hear a single beep and the base station LED will split between red and green. To be able to talk to the vehicle, the dedicated order taker should press '**I**'. The green LED on the base station will flash when the order taker is speaking. All runners can hear the order takers conversation with the vehicle. The call will automatically drop when the car moves off the loop or can be cancelled by the order taker by pressing '**I**'.

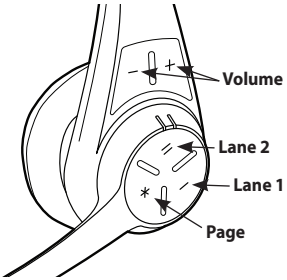


Figure 11 - Pro9 headset

When operating a Dual lane drive-thru, the users are required to split into lane 1 and lane 2 teams. Pressing '**II**' and **+/–** will make the user a runner in lane 2, indicated by a single blue flash on the boom LED every 4 seconds. To become an order taker in lane 2, press '**II**' and **+/–** again and the boom will double-flash blue every 4 seconds. When a vehicle arrives, all headsets will hear a double beep and the LED on the base station for lane 2 will turn solid GREEN. The order taker should press '**II**'.

It is possible to move between lanes, keeping your original role (runner or order taker) by pressing '**I**' and '**II**'. Any runner is able to temporarily take a call from either lane by pressing and holding the relevant lane button on the headset and drilling through to the speaker post. When the call is dropped, the runner reverts back to their runner role in their original lane.

Step 21 Now show the customer the features on the underside of the base station.

a. If the site needs to reduce the order point volume level at night, they press the night volume button and it stays activated for 8 hours or until they press again. The volume level is reduced by approximately 20%.The green light adjacent to the button indicates night volume is active.

b. If using a chime speaker the volume 'V-' and 'V+' buttons give manual adjustment to the sound level.

c. The vehicle detection override button is the manual override if the automatic vehicle detection fails.

d. The reset button cuts the power and starts a reboot. Press this for 10 seconds, the front light will start to flash green after several seconds, then a short time later turn amber. You may now release the button and the system will reboot.

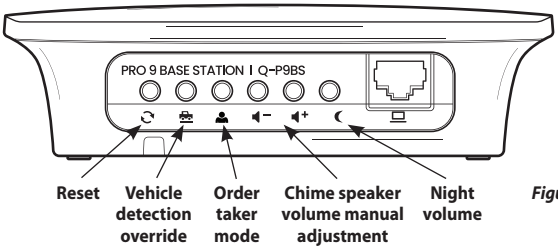


Figure 12 - base station (underside)

Appendix A

Refer to the following diagram and wiring table to complete Cat5 cable termination

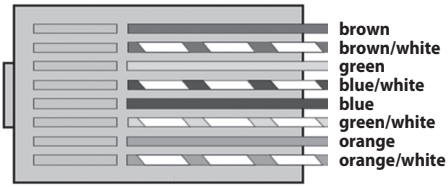


Figure 13 - Type B RJ45 termination colour code for use with Cat5 cable sites

All Cat5 cables terminated during an installation must be tested before use.

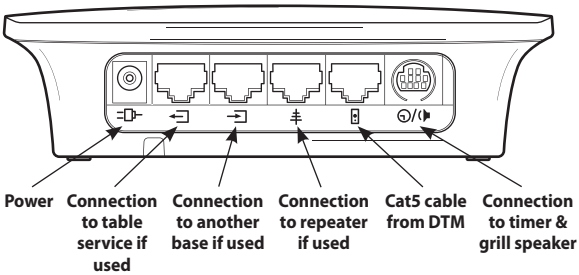


Figure 14 - Connecting to base station (top)

Appendix B

Installing Pro9 system using existing cabling to connect the base station to the DTM located in the order point (Q-P9NTEXT and Q-P9NTINT)

Using the network termination boxes allows existing cabling to carry digital signals and power on previously installed cabling. Inside each is a small PCB with a network adaptor socket and screw terminals as below. Follow the steps on page 13 to make the correct connections.

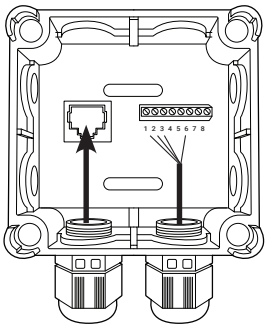


Figure 15 - Network termination box

1. Outdoors, strip back your existing cable and connect into the screw terminals of the external network termination box (Q-P9NTEXT). Follow the colour codes in the table below.

2. Indoors, strip back the other end of your existing cables and connect into the internal network termination box (Q-P9NTINT). Follow the colour codes in the table below.

3. At the order point connect the black Cat5 lead from the Q-P9NTEXT into the DTM.

4. Indoors, connect the white Cat5 lead from the Q-P9NTINT to the base station.

5. In the order point connect the microphone and speaker into the connection strip of the junction box as shown following the colour codes.

6. Connect your existing audio cable to section A of the PCB as shown below.

7. Then go to the other end of the audio cable in the building and use the other junction box to attach the speaker and microphone plugs to it.

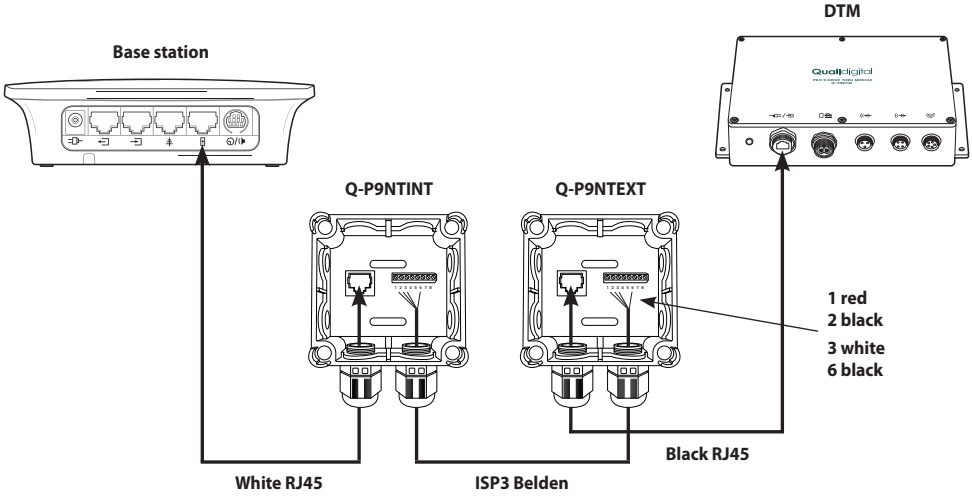


Figure 16 - Connecting using existing cabling to DTM in speaker post

All Cat5 cables terminated during an installation must be tested before use.

	Terminal connection								
Cable type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Notes**
Belden 8723 2 Pair	**red**	**black**	**white**	**nc**	**nc**	**green**	**nc**	**nc**	**As used in many DT installations**
Belden 8777 3 Pair	**red (pr1)**	**black (pr1)**	**white (pr2)**	**nc**	**nc**	**black (pr2)**	**nc**	**nc**	**General purpose cable suitable for DT**
3M Cable	**red**	**black**	**white**	**nc**	**nc**	**blue**	**nc**	**nc**	**Specialised cable designed for DT**
Cat 5 Cable	**white/ orange**	**orange**	**white/ green**	**nc**	**nc**	**green**	**nc**	**nc**	**Cat 5 Cable**

Appendix C

Installing Pro9 system using existing cabling to connect the base station to the DTM located in the building (Q-P9JB x2)

Using the junction boxes allows existing cabling to be used to carry the audio signals for the speaker and microphone. Inside each is a small PCB with two sets of screw terminals, A and B as shown. Follow the steps below to make the correct connections.

1. Ensure the Quail Digital speaker and microphones are installed at the order point.

2. The installed speaker and microphone are equipped with fixed length cables, factory terminated with DIN connections. The DIN terminated ends of these cables need to be reused indoors to complete the speaker and microphone DTM connections.

3. Cut the cables on both the speaker and the microphone, ensuring there is at least 300mm length on the connector end cables which are used to connect the internal Q-P9JB to the DTM speaker and microphone sockets.

4. Strip the cable of all 4 ends and prepare the cores for connection.

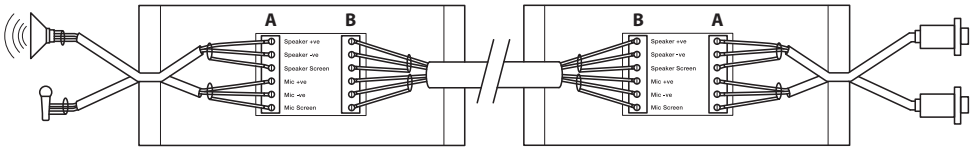


Figure 17 - Connecting using existing cabling to DTM in building

	Terminal connection Connector A						
Installed cable type	**Spk +ve**	**Spk -ve**	**Spk screen**	**Mic +ve**	**Mic -ve**	**Mic screen**	**Notes**
Quail speaker & mic	**red**	**black**	**screen**	**white**	**blue**	**screen**	**Supplied installation options**

	Terminal connection Connector B						
Installed cable type	**Spk +ve**	**Spk -ve**	**Spk screen**	**Mic +ve**	**Mic -ve**	**Mic screen**	**Notes**
Belden 8723 2 Pair	**red**	**black**	**nc**	**white**	**green**	**screen (drain)**	**As used in many DT installations**
Belden 8777 3 Pair	**red (pr1)**	**black (pr1)**	**screen (pr2)**	**white (pr2)**	**black (pr2)**	**screen (pr2)**	**General purpose cable suitable for DT**
3M Cable	**red**	**black**	**nc**	**white**	**blue**	**screen**	**Specialised cable designed for DT**

Note – only screened cable can be used for audio connections.

Appendix D

Pro9 auxiliary connections (Q-P9ACB)

If your system is using a lane timer and/or a chime speaker use an Auxiliary Connection Box and follow these connection instructions:

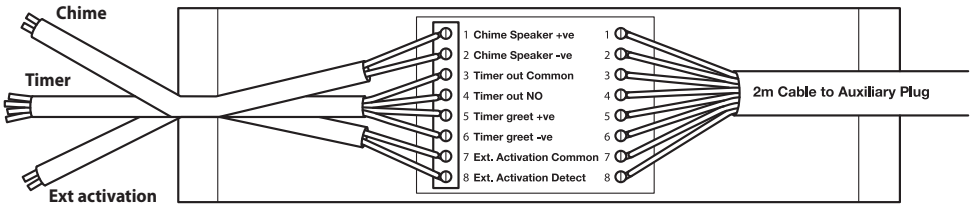


Figure 18 - Auxillary connector box connections

Plug this interface connection unit into the corresponding connector on top of the base station.

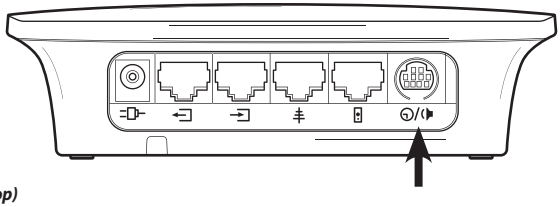


Figure 19 - base station (top)

This table provides the information you may require in relation to the auxiliary connections.

Connection	Colour	Description	Notes
1	white	Chime speaker +ve	For connection directly to a speaker to provide a chime on arrival of a vehicle at the order point.
2	red	Chime speaker -ve	
3	blue	Timer out common	0v switch output to provide vehicle detection to OEM timers or other equipment.
4	green	Timer out NO	
5	brown	Timer greet +ve	Simulated voltage output triggered when headset goes live to speaker post. Provides "greet" function to OEM timers.
6	grey	Timer greet -ve	
7	purple	Ext activation common	0v to 12v detection to provide third party activation of the headset system. Typically output from an OEM timer system.
8	yellow	Ext activation detect	

Appendix E

Pro9 repeaters (Q-P9REP)

If the range needs to be increased you can add up to two repeaters which, subject to local conditions, can more than double your headset range.

A repeater is another radio device and is wall mounted like the base station. Its power is fed down the Cat5 cable which connects the repeater to the base station. There is no need for an additional power supply for the repeater.

Two repeaters can be connected in a daisy chain format to a base station (as shown below).

For systems subject to FCC regulations, the total number of bases or repeaters in any system must not exceed 6 units. For example, three bases each with one repeater, or two bases each with 2 repeaters.

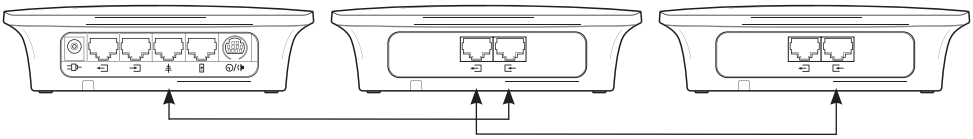


Figure 20 - Increasing range using up to two Pro9 repeaters

1. Putting on a headset walk from the base station towards the area you require more coverage and note where you lose connection.

2. Set up the repeater in the area where you need further coverage, connecting the Cat5 cable from the base station to the repeater.

3. Check that you have enough coverage for the additional area and that there's full coverage in hand-over zone where you lost range before.

4. Repeat the exercise if you need further increase in range, cabling back the second repeater to the first repeater.

5. When your repeaters are booting up the LED on the front will flash AMBER, and then default to solid GREEN in standby mode.

6. When the repeater is transmitting your headset audio, the LED will pulse GREEN.

7. See 'Trouble shooting' for further guidance (page 26).

Appendix F

Pro9 table service (Q-P9BSTS)

The Pro9 system can be configured to support two drive-thru order points and one table service channel (TS). If the restaurant is using table service, you will require a table service base station. The table service base connects to the drive-thru base station using a Cat5 cable and uses its own 48v power supply.

Figure 21 - Table service base station

The table service base station is normally located centrally in the restaurant , providing coverage for seating and preparation areas. Usually, pick a location for the base somewhere between the service counter and the middle of the seating area. If there are multiple floors adjust your placement accordingly and consider adding one or more repeaters.

1. Install a Cat5 cable from the drive-thru base station to the position you have identified for the table service base station. Once installed use a Cat5 tester to ensure that the cable is correctly wired and tested.

2. Mount the table service base station using the template provided as a guide for the screw locations.

3. Plug the Cat5 cable to the 'IN' port of the table service base station.

4. Return to the drive-thru base station and disconnect the power.

5. Plug in the new Cat5 cable to the 'OUT' socket located on the top of the drive-thru base station.

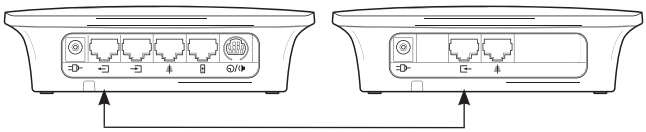


Figure 22 - Connect table service base station to drive-thru base station

6. Plug the power back into the drive-thru base station and table service base station.

7. After successful start up the LED on the table service base station will be solid amber. Headsets should be re-registered to the new configuration now table service is added.

8. Press the 'V-' and the '*' buttons of the headset together for 2 seconds, the boom LED will pulse yellow, you can then let go of the buttons. You are now in table service mode.

9. Testing. Repeat Step 8 with another headset. Then, using the '*' button on one of the headsets, the two headsets will communicate between each other.

10. The table service channel is simplex which means you push to talk and release when you've finished speaking. When speaking the boom LED will be solid white.

11. To change your headset from table service to drive-thru press T1 and 'V-' . The boom LED will change from pulsing yellow to pulsing green.

Appendix G

Adjustments in system set up (connecting a computer to Pro9 base station)

To make adjustments to the Pro9 system you can connect a laptop directly into the network port on the bottom of the Pro9 base station. This appendix describes the process of making the connection.

This description is based on Windows 10, you may need to alter details to suit your operating system. To provide communications a simple RJ45 network socket on the bottom of the Pro9 base station is utilised. Connect a standard Cat5 lead from this socket to the network port of your laptop.

1. Press the Windows button on your keyboard and select the settings cog.

2. Select 'Network and Internet'.

3. Select 'Ethernet', then 'Change adaptor options'.

4. Right click on your ethernet connection and click 'Properties'.

5. Double click on 'Internet Protocol Version 4 (TCP/IPv4)'.

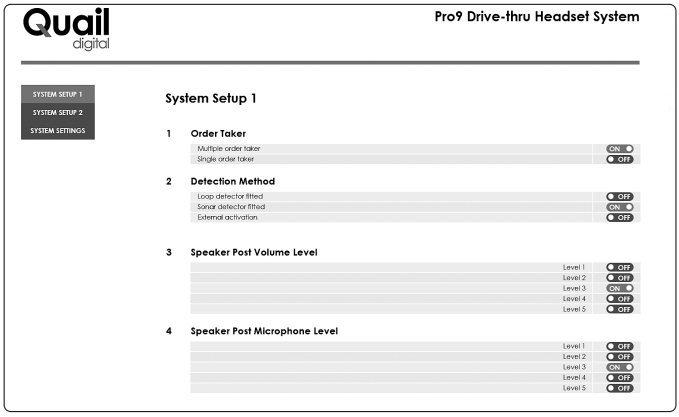
6. Select 'Use the following IP address' and type in the IP address field 192.168.1.1, then in the Subnet mask field type 255.255.255.0

7. Press ok on the open dialog boxes to close them.

8. Open your web browser and type into the address bar 192.168.1.115

9. This will now bring up the Quail API for you to change the settings of the base.

10. Once you are happy with your setup, follow the above steps again, however in step 6 select the 'obtain IP address automatically' to return your computer to normal settings.



Appendix H

Connecting a computer to Pro9 base station using a wireless adaptor

To make adjustments to the Pro9 system it is possible to complete this wirelessly using a WiFi repeater/bridge. This appendix describes the process of making the connection. The use of the interface API is described in the main manual.

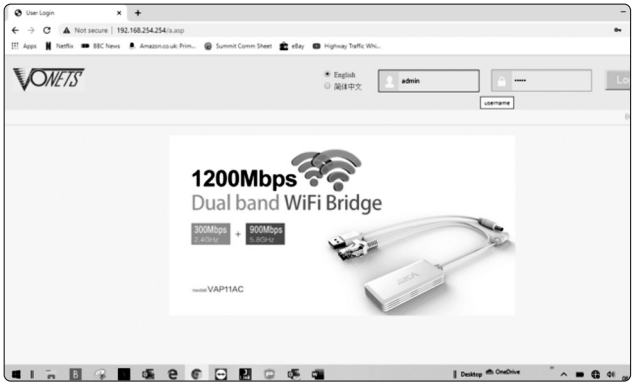
This description is based on the Vonets VAP11G-300 WiFi bridge. This device is a tool for the engineer and once setup can be used on any Pro9 system to connect to the installer API.
http://en.vonets.es/products/VAP11G-300/

1. Unpack the Vonets WiFi bridge and plug the USB into your laptop, just to power the adaptor. Give the unit 30 seconds to start up.

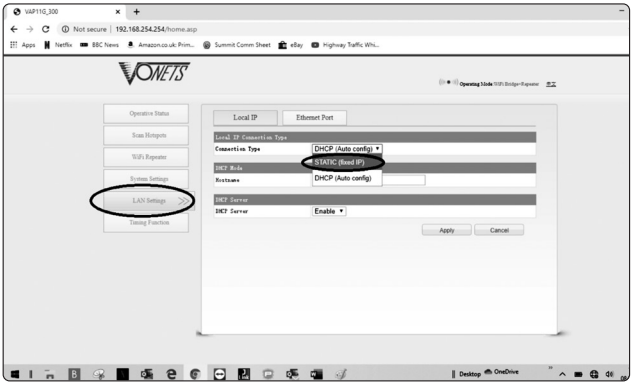
2. Open the WiFi settings of your laptop or phone and connect to the Vonets WiFi network. The password is '12345678'

3. Open a web browser and type in the address '192.168.254.254'

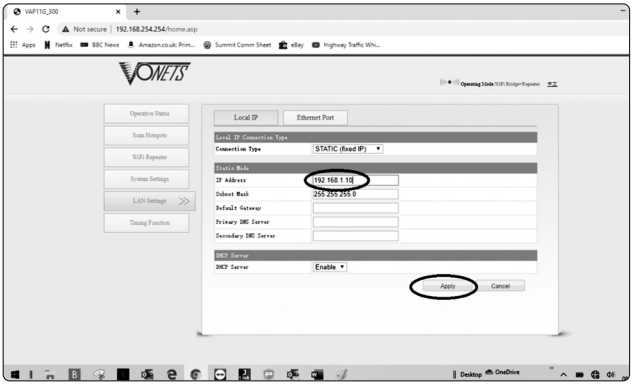
4. On the login page, enter username as 'admin' and password as 'admin', both in lower case.



5. On the next menu, select 'LAN settings' then 'Static IP'



6. In the IP address box, change the address to '192.168.1.10' and click 'Apply'



7. The device will now say 'Please wait'; once this is finished (approximately 10 seconds), unplug the USB from your laptop.

To use the wireless adaptor, you will need a power supply or battery pack to power the unit, a standard USB charger power supply or battery pack will suffice. Once powered, plug the RJ45 into the Pro9 base and open a web browser. Type '192.168.1.115' into the browser and the Quail API will open for you to make alterations to the settings.

Now this device is setup. See Step 18 in the main manual for details of the API.

Appendix I

Setting up Pro9 as dual lane/tandem and table service configuration .
Please refer to Pro9 4L Installation Manual for guidance on installing the Pro9 4 Lane system.

You will require two Q-P9BS base stations to operate two order points and one Q-P9TSBS.

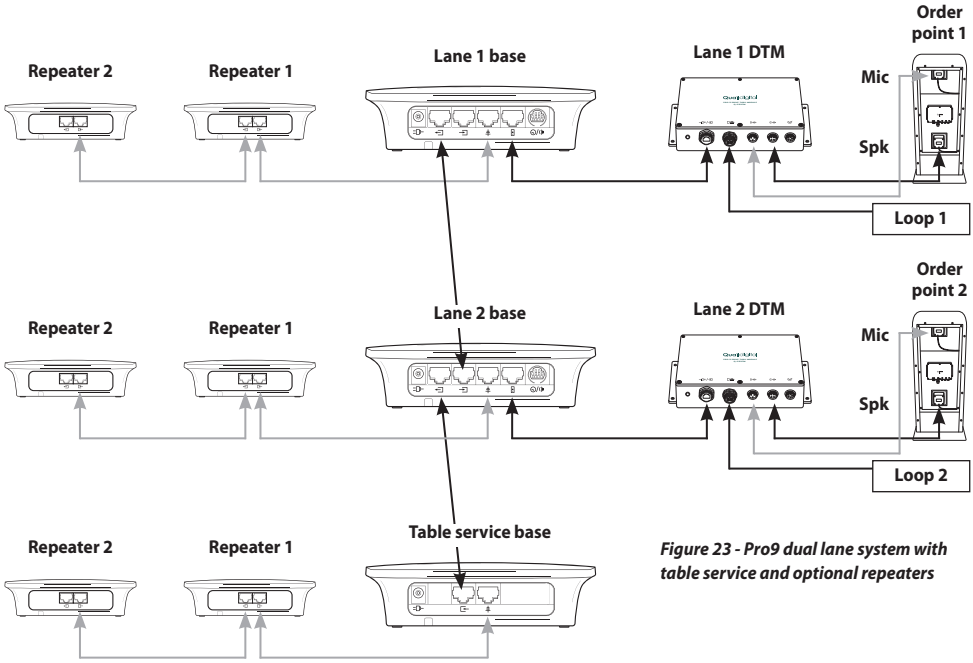


Figure 23 - Pro9 dual lane system with table service and optional repeaters

Note: for lane timer and grill speaker auxiliary box connections, please refer to Appendix D.

To configure two order point system, first follow Steps 1 to 13 in this manual. Essentially, treat it as two separate single lane systems for initial installation and set-up. Once you have completed Step 13 follow the instructions below.

Note that each base station uses its own power. And note that if range extension is required a REPEATER is required to be connected to each base station.

1. Disconnect the power from both base stations.

2. Identify which base station is connected to the first order point and connect a short Cat5 cable from the 'OUT' port of this base station to the 'IN' port of the second base station.

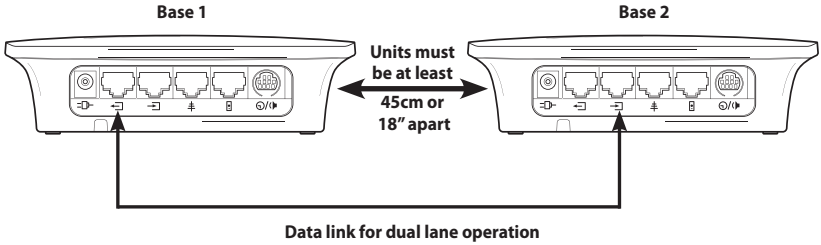
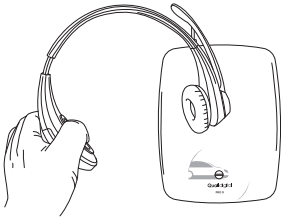


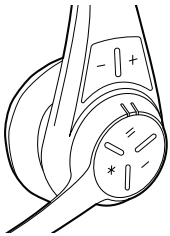
Figure 24 - Connecting dual lane stations

3. Re-connect the power to BOTH base stations. The LED on the front of the lane 1 base station will turn solid red. The LED on the lane 2 base station will turn solid GREEN.



4. Now follow Step 14 to register ALL the headsets to the system using either base; the process is identical to that for single lane.

5. Now follow Steps 15 to 19 in the manual to set up the audio levels at each order point. The setup process is done twice, separately, once for each lane. Note - in tandem lane configuration, there is no 'multiple-order taker' feature.



You will be asked to confirm whether the site is operating DUAL or TANDEM lane. If you have selected tandem, you will be required to record a 'Pull forward' message. Please go to Appendix I to read how to do that.

6. Once you've finished selecting mode and audio levels and recorded the pull forward message in the case of tandem, press RESET. The system is ready to be used, and you should explain the headset features to the customer.

When you place a battery into a headset at the beginning of the day it always defaults to lane 1 runner. Review the table below to understand how to move from lane 1 runner mode.

Figure 25 shows the bottom of the base station. When pressed, the third button from the left engages 'Single Order Taker' mode, where a single order taker is able to operate both lanes by pressing the relevant lane button when a vehicle arrives. Only one user can be an Order Taker, with all other headsets remaining as runner. The user can become order taker by pressing '**I**' and Volume **+/-** at the same time. All other headsets will be runners and will be able to hear the order takers conversation with the post. Its default position (off) is one order taker for each order point as per standard dual lane configuration.

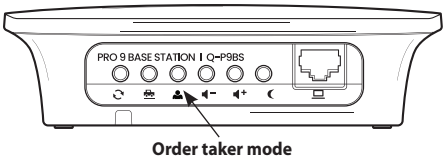


Figure 25 - Additional data socket & function button

For tandem lane, it is essential that Order point 2 comes first before Order point 1 in the direction of traffic flow, as Figure 26. The message to 'Pull forward' is played from Order point 2 when there is no vehicle at Order point 1. Order point 1 is always the main order position; Order point 2 is used only during busy times.

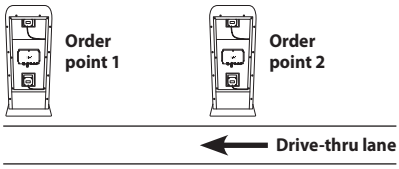


Figure 26 - Tandem lane, order point sequence

MULTI-ORDER TAKER						
First step	**Standby**	**Car arrival at order point**	**Car at order point**	**Car leaves order point**	**Take over during order**	**Paging**
Insert battery, all headsets become stand-by order takers.	All headset LEDs double flash green. All headsets hear car arrival chime.	All headsets hear single beep arrival chime. Press T1 to take order.	Order taker LED changes to solid green during order taking.	Order taker headset reverts to standby mode. LED resumes double flash green.	Press/hold T1. Hear short beep, then longer beep. You have taken over call.	Press * to talk, release to listen. Paging engaged when order taker speaking to customer.

DEDICATED ORDER TAKER						
First step	**Become an order taker**	**Move from Lane 1 to Lane 2 runner, and back**	**Move from Lane 1 to Lane 2 order taker, and back**	**Take over temporarily as order taker**	**Paging**	**Car detection over-ride**
Insert battery, all headsets become Lane 1 runners. LED single flash green.	Lane 1 press Vol- & T1 together, LED double flash green. Lane 2 press Vol- & T2 together, LED single flash blue. Repeat process, LED double flash blue.	Press T1 & T2 together, LED single flash blue. Runners hear order taker from the lane they are in. Repeat process to go back to Lane 1.	Press T1 & T2 together, LED double flash blue. Repeat process to go back to Lane 1.	Any headset can take over as order taker. Press/hold T1 or T2, hear beeps, then you are live to customer. Car leaves, you revert to your previous mode.	All headsets hear paging from both lanes. Order takers hear paging at reduced volume when speaking to customer. Runners only hear order taking from the lane they are in.	All headsets hear car detection from both lanes. If car arrival detection fails, any headset can press T1 or T2 to override the system, allowing you to talk to the customer.

4-LANE SYSTEM DAILY HEADSET USE					
Start	**Car arrival**	**During call**	**Close call**	**To listen-in to a call**	**To take over a call**
Insert battery, all headsets enter standby mode, headsets show pulse white.	All headsets hear the respective lane chime. Order taker presses respective button to open channel. Headset now In handsfree mode. LED on headset will be solid green/blue/ orange/purple depending on lane.	Order taker can mute the call by pressing the volume button for 3 seconds. Press again for 3 seconds to unmute. Order taker can press channel button to close call (cut off audio to speaker post) and re-press to re-engage.	On closing the call the headset will revert to standby mode and slow pulse white.	Press the respective channel button. You will hear a tone and then hear the conversation from that particular lane. The headset LED will pulse the colour of the lane.	Press the respective lane button for 3 seconds, that drills through, you are now the order taker. The previous order taker reverts to listen-only and the LED reverts to pulse the colour of the lane.

Appendix J

Recording a 'Pull forward' message

To use Pro9 in a tandem drive-thru you will need to record a 'Pull forward' message to the base station for Lane 2. It is good practice to record the same message to both base stations in case they are swapped around at a later date.

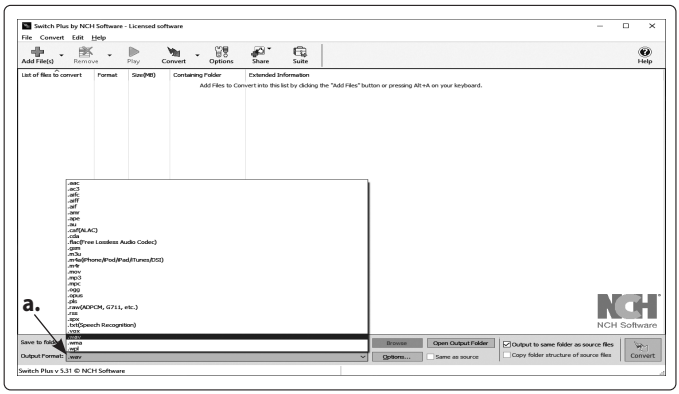
Procedure

1. Record your 'Pull forward' message using a preferred audio/voice recorder, then rename the recorded files to the required name in a known location of your computer.

2. Audio files need to be saved in mono (single track) and be encoded as: ***U-Law at 16 Khz***. We suggest using ***NCH Switch Plus*** (http://www.nch.com.au/switch) to convert your audio messages to the correct format. It's affordable for commercial use, and simple to use.

3. Open the NCH Switch program to the main screen, and then follow the steps outlined below:

a. Select 'Output Format' in the bottom left of the window, choose '.wav'

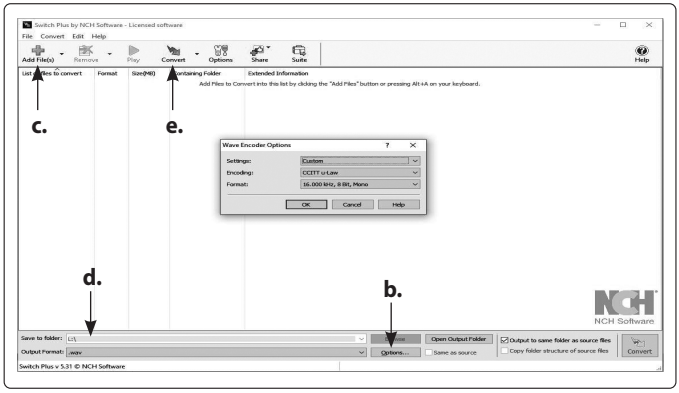


b. Select 'Options' and choose custom settings: CCITT u-Law, 16,000 KHz, 8 Bit, Mono

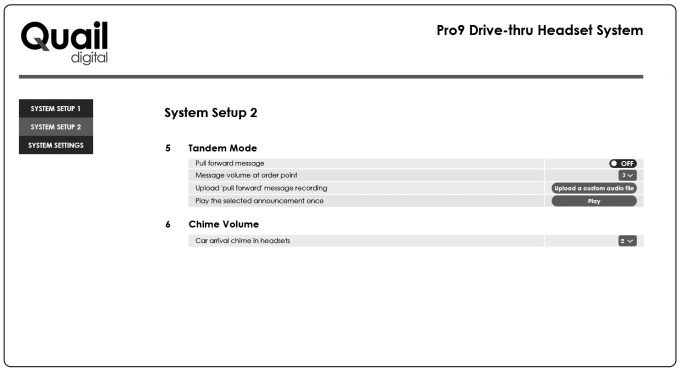
c. Click 'Add File(s)' - using the browser, select all the message files (in any format) to be converted to the correct type

d. Select 'Browse' and choose a preferred output location

e. Click 'Convert' - the converted files will automatically appear in the folder chosen in '**c.**'



4. Once connected to the Quail Pro9 base station (see Appendix G) use the link in 'System Setup 2', Section 5, 'Tandem Mode' to upload your file to the base station.



5. Using the link 'Play', check that your message is operating. You will hear the message coming from speaker post 2 when the link is activated.

Please note, messages must be recorded in this format and be under six seconds in length. This message is the operational 'Pull forward' message for a tandem operation drive-thru lane and is not intended as a greet message.

Trouble Shooting

BASE STATION LED STATUS

RED single flash	RED double flash	RED triple flash	AMBER triple flash	AMBER solid
Failure between base and DTM	Road loop has failed	Speaker in order point failed	Microphone in order point failed	Base station software lockup
Check cable is in correct port on top of base	Engineer visit required to repair or replace loop.	Engineer visit required to replace speaker in order point.	Engineer visit required to replace mic in order point	Follow base reset procedure
Ask customer to locate DTM in speaker post the LED should be GREEN in normal operation. If LED is OFF or RED, possible cable or DTM fault. Engineer visit required. ***Engineer instruction***: check connectors and cables between base and DTM. Only replace if **NO** LED or RED LED.	Press vehicle detection override on bottom of base to keep microphone live until repair is completed. ***Engineer instruction***: test loop and cables for faults. If replacement required, document lane layout and photograph excavation point to advise further works.	***Engineer instruction***: test full system, including completing continuity test on speaker using multimeter. Replace speaker if fault re-confirmed on site.	***Engineer instruction***: test full system, including completing continuity test on mic using multimeter. Replace mic if fault re-confirmed on site.	Press and hold reset button on bottom of base. Base LED will flash then change to solid AMBER after approx 10 secs. Release button and base will reset.

Note: The above troubleshooting must be completed with a system reset. After any system component changes, the system must be reset.

IMPORTANT NOTES FOR ENGINEERS

For **ALL equipment replaced**, fault diagnosis and serial numbers to be confirmed on job sheet and quarantine sticker. Equipment to be returned to Quail Digital at earliest convenience.

ALWAYS confirm on job sheet that system has been left tested and working unless further works are required.

REPEATER LED STATUS

No LED

No power to repeater

Check Cat5 cable is in correct base and repeater sockets:

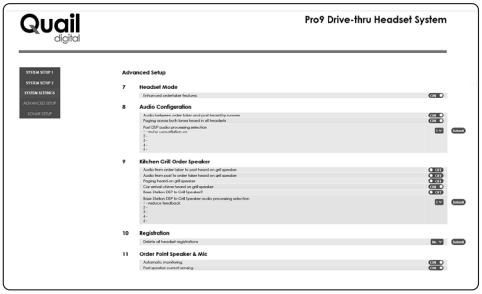
base socket repeater socket

Engineer visit required to check wiring and connectors, replace repeater if cable tests OK.

Engineer instruction: establish power failure. Check Cat5 cable is in correct base and repeater sockets, perform cable test and only replace repeater if test confirms cables are OK.

HEADSET LED STATUS

Fast flashing RED ***and*** fast continuous beeping	Single flash RED ***and*** single beep every second	Single or double flash GREEN ***and*** 3 fast beeps every 3 seconds		Flash ANY colour with additional RED single flash in-between
		OR		
Hardware fault in headset	Headset not registered	Headset is out of range	Headset from another store	Battery low
Arrange headset swap out	Register headset to base	Move closer to base	Re-register headset to this store as below	Return battery to charger
	Hold headset to base as shown below. Headset boom LED will fast-flash GREEN whilst registering, then pulse GREEN when completed. 	Headset will return to normal operation	Remove battery from headset, hold headset up to base and THEN re-insert battery. Headset LED will fast flash GREEN then return to normal GREEN pulse ready for use.	Take charged battery from charger, insert into headset, LED will return to operational status. Resume operation



Note: If you are an installer, service agent or service centre, it is good practice to deregister a headset BEFORE sending it to a customer. Customers should always receive an unregistered headset which will flash RED and require registration as in column 2 above, before use in store.

Procedure to deregister a headset before giving it to the customer: Go to Appendix F and G in this manual. Connect a computer to the base station. On GUI page 'System Setup 2', go to 'Registration', select YES, then click 'Submit'. ALL headsets registered to that base station will deregister, the headset LED will flash RED with a single beep every second.

Manufacturer's notes

Battery handling and safety guidance for Quail Digital headset batteries

Quail Digital uses Lithium Polymer (LiPo) type rechargeable batteries. On these systems the battery is removed from the headset device to recharge it. When placed in the charger the battery will 'fast-charge' to 80% capacity for up to two hours and then drop back to a trickle charge for the remaining 20% of the charge cycle. Once the battery is fully charged the charger will maintain a minimal charge routine until the battery is removed from the charger. LiPo rechargeable batteries deteriorate in performance and composition over time, reducing the full charge capacity and integrity of the battery.

LiPo batteries must be swapped out and disposed of in an approved manner every two years.

Battery safety guidance

• Routinely inspect the batteries to ensure there are no signs of damage, deformity, or swelling, before use and when returning to the charger. If the battery is deformed or the casing is cracked or otherwise damaged, isolate it, and dispose of in an approved manner.

• Batteries should always be either in the charger OR in a headset. Do not leave batteries out on worktops or other places where they could become physically damaged or exposed to excessive heat or liquids of any type.

Battery replacement schedule

• Batteries are a consumable item and must be replaced every two years to maintain the performance and safety of the headset system.

• Batteries with missing date information should be considered consumed and replaced.

• You should dispose of spent batteries through approved disposal channels. Please ask your service agent for details.

To purchase replacement batteries please contact: service@quaildigital.com or your service agent.

Disclaimer

Quail Digital accepts no liability for injury (in the absence of any negligence or other breach of duty), loss or damage arising from use of its products as a result of a failure to use them in accordance with the relevant instructions of use.

Regulatory notices

Headset - HVIN: Q-P9HS

FCC ID: UDDQP9HS This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:- Reorient or relocate the receiving antenna.- Increase the separation between the equipment and receiver.- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.- Consult the dealer or an experienced radio/TV technician for help.

ISED ID: 6402A-QP9HS This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économiqueCanada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: L'appareil ne doit pas produire de brouillage; L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'encompromettre le fonctionnement.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme aux limites d'expositionde radiation IC énoncés pour un environnement non contrôlé.

Base Station - HVIN: Q-P9BS

In order to comply with FCC and IC RF Exposure requirements, the base station must be installed and operated such that a minimum separation distance of 20 cm is maintained between the base and all persons during normal operation.

FCC ID: UDDQP9BS This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radiofrequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:- Reorient or relocate the receiving antenna.- Increase the separation between the equipment and receiver.- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.- Consult the dealer or an experienced radio/TV technician for help.

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This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme aux limites d'exposition deradiation IC énoncés pour un environnement non contrôlé.

Pro9 system components

Pro9 Headset - Q-P9HS

Operating frequency
1.88-1.90GHz EMEA, Asia
1.91-1.93GHz North America

Power
250mw EMEA, Asia
125mw North America

Pro9 Charger - Q-P9CH

5v 4 amp power input
8 port
Power light
Individual battery status lights
205x325x45mm
710g

Pro9 Base Station - Q-P9BS

Operating frequency
1.88-1.90GHz EMEA, Asia
1.91-1.93GHz North America

Power
250mw EMEA, Asia
125mw North America

Pro9 Charger PSU Q-P9PSU5

100-240v AC voltage sensing
5v DC 4 amp output
4 x region IEC mains lead supplied

Pro9 Base PSU Q-P9BS PSU

100-240v AC voltage sensing
48v DC 1.25 amp output

Pro9 Drive-thru Module Q-P9DTM

Process and digitizes clean audio from speaker and microphone to and from order taker.
Vehicle loop detector (inc) or sonar
252x170x55mm without connectors - 880g

Pro9 Speaker & enclosure Q-P9SPK

Mylar waterproof cone, enclosure
IP64 15watts /30 peak, 8 ohms
210 to 7000 Hz
4 pin GX16 connector
117x117x73mm without bracket
682g

Pro9 Microphone & enclosure Q-P9MIC

Mylar waterproof cone, enclosure
IP64, 50 ohms
210 to 7000 Hz
3 pin GX16 connector
117x117x73mm without bracket
682g

Scan first to view
installation video

sales@quaildigital.com
www.quaildigital.com