



**BCM RIs 6.0**

# **Digital Mobility Configuration**

**Task Based Guide**

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# Digital Mobility Configuration

## Overview

The Digital Mobility System uses Digital Enhanced Cordless Telephony (DECT), which is a digital wireless technology that has been standardized by the ETSI (European Telecommunications Standard Institute). Although a European standard, the technology has spread worldwide with only minor differences to the frequency band allocated for wireless telephony in different markets.

This guide explains how to install and configure the Digital Mobility System. This includes the installation and configuration of the following components:

- Digital Mobility Controller (DMC)
- Digital Mobility Base stations (Radio Fixed Part (RFP))
- Digital Mobility Repeaters (Wireless Radio Fixed Part (WRFP))

The guide also provides you with information about:

- DMC OAM application: the tool used from your computer to configure, operate, administer and maintain the wireless subsystem through the DMC.
- Digital Mobility Service Tool: the tool used from your computer to configure and manage handsets and repeaters.

The DMC OAM application and Digital Mobility Service Tool are separate from the BCM configuration interface (Element Manager). The DMC is connected to the BCM via a Digital Station Module (DSM+) and will utilize the required ports on the DSM+ for each of the required Digital Mobility Handsets.

## Required Information

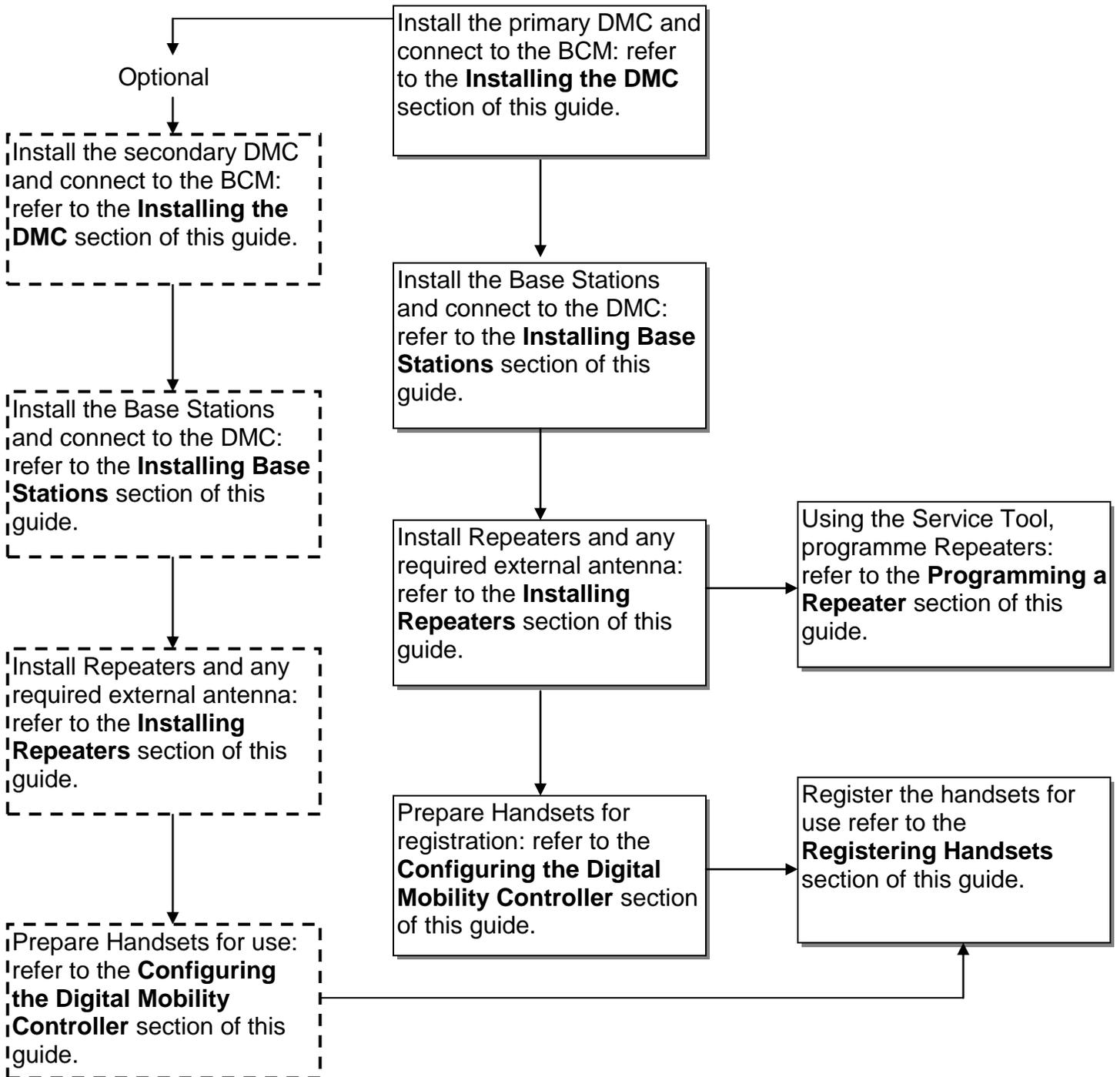
Before configuring the Digital Mobility Controller, you should consider the following:

- Has all of the required telephony programming been completed on the BCM?
- Has a Digital Station Module (DSM+) been provided with spare ports for the Digital Mobility Handsets?

## Flow Chart

Use this flow chart to determine the recommended procedure for installing and configuring the Digital Mobility system.

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## Digital Mobility Controller

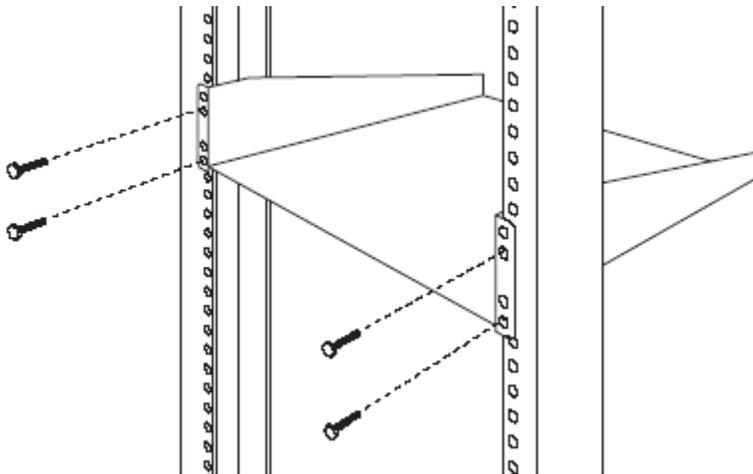
### Installing the DMC

#### *Rack Mounting*

You can install a DMC in the same rack as the other networking equipment and BCM.

**Note:** The DMC and the BCM must be within 15 meters of each other. To rack mount a DMC, you need the optional Rack Mount Kit. This kit provides the parts you need to mount several DMCs into a standard 19-inch equipment rack.

1. Determine the location in the rack where you want to install the DMC, and position the rack mounting tray in the rack.
2. Align the holes in the rack mounting bracket with the holes in the equipment rack rails.
3. Fasten the rack mounting brackets to the rack using the four rack screws (supplied).



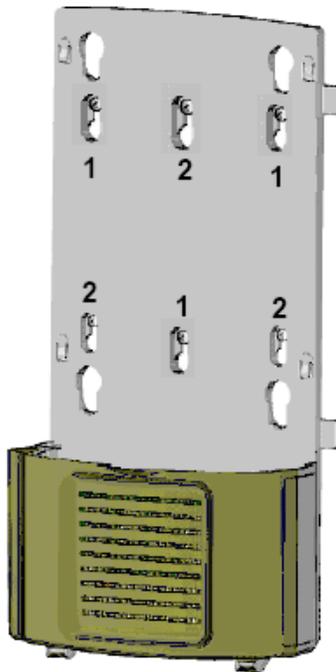
4. Place the DMC on the rack mount tray so that the DMC feet are in the depressions in the tray. Move the module forward so the feet are touching the front side of the depressions.
5. Slide the module back until the DMC feet click in place on the tabs in the depressions.
6. If you want to further secure the DMC, use four of the plastic screws supplied with the rack mount kit to attach the DMC to the rack mount tray. Ensure that the screw holes in the DMC are aligned with the holes in the

rack mount tray. Then drive the four screws through the holes in the bottom of the tray and into the screw holes in the bottom of the DMC.

### **Wall Mounting**

The DMC can be wall mounted, in which case a wall mounting kit is required. It is also recommended to have a plywood backboard two cm thick.

1. Mark the location of the plywood backboard on the wall using a pencil, then mount the plywood backboard securely to the wall.
2. Place the wall mount bracket on the backboard and use a spirit-level to check that the wall mount bracket is level.
3. Using the wall mount bracket as a template, mark the location of three of the wall mount bracket holes on the plywood backboard.



**Note:** The holes marked 1 and 2 show the suggested positions in relation to which hole to use. These are in the order of preference, so use holes marked 1 in their suggested locations or holes numbered 2 as an alternative for the position of the mounting screws.

4. Install three #10 x 2.5 cm round-head wood screws in the backboard. Do not tighten the screw heads against the backboard. Leave approximately 0.5 cm of the screw exposed from the backboard.
5. Prepare the wall mount bracket by removing the alignment tabs or the side breakouts on the cable management door. The following describes what to remove for each of the installation scenarios.

- a. If this is the only DMC in the system, remove the alignment tabs on the right side of the wall mount bracket.
  - b. If this is the first DMC on a system with two DMCs (a linked system), remove the side breakout from the right side of the cable management door.
  - c. If this is the last DMC on a system with two DMCs (a linked system), remove the alignment tabs and the side breakout from the left side of the cable management door.
6. Hang the wall mount bracket on the mounting screws making sure that the bracket is level and the wood screw heads seat fully into the wall mount slots. Then tighten the wood screws against the wall mount bracket.
  7. Align the feet on the DMC with the four holes in the wall mount bracket. Press the DMC against the wall mount bracket and slide the module down until it clicks into place. Repeat the necessary steps if you are installing a second DMC in a linked system.
  8. Secure the power supply for the DMC unit in such a way that it is secure and cannot be accidentally dislodged.

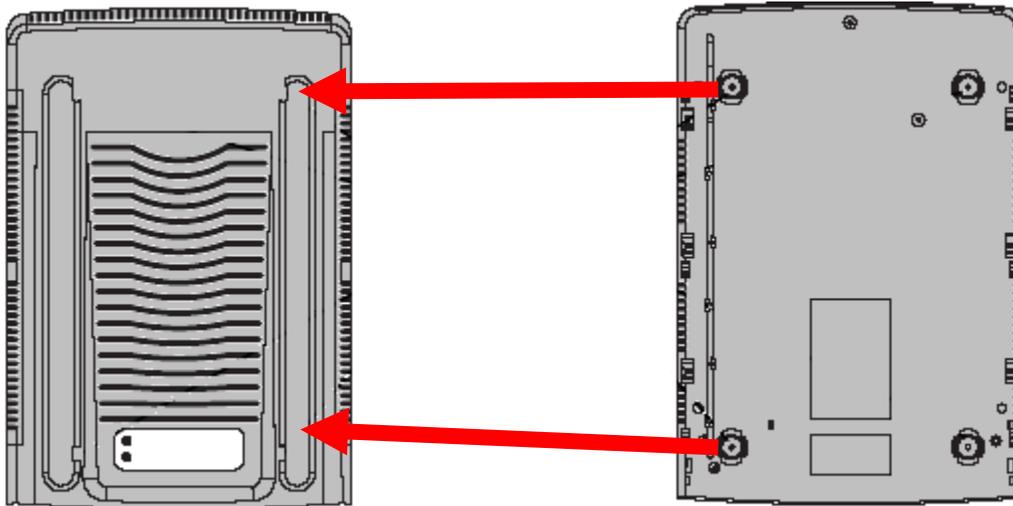
### ***DMC on to DMC***

The DMC can also be connected directly one on top of the other.

1. Place the DMC on top of the other DMC. Make sure that the DMC feet are in the slots on the top of the DMC, and in front of the tabs.



2. Slide the DMC back until it clicks in place on the tabs



### ***On a flat surface***

The DMC can be placed on any flat surface that can safely support the weight of the module. Though please note do not place anything directly on top of the DMC (except for another DMC). The DMC requires the ventilation holes to be free of obstructions to prevent overheating.

To install the DMC on a table or shelf.

1. Attach the four rubber feet to the bottom of the DMC. Position the DMC on the table or shelf, making sure that enough space is left around the DMC for ventilation and access to the cables.
2. If the DMC is part of a linked system, you can install the other DMC on top of, or beside, the existing DMC.
3. Secure the power supply for each unit in such a way that it is secure and cannot be accidentally dislodged.

## **Connecting to the BCM**

This section describes how to connect the DMC to the BCM through TCM (Time Compression Multiplexing) loop connections, i.e. digital extension loops.

The TCM loop connector is a 50-pin amphenol connector with eight TCM loops for the DMC080 and 16 TCM loops for the DMC320. The DMC320 has two Amphenol connectors which support a total of 32 TCM loops.

The connection of the DMC to the BCM is Amphenol connector to Amphenol connector.

**Note:** The maximum length of TCM loops is 15 meters.

TCM Loop	TIP (Body / Band)	RING (Body / Band)
1	White / Blue	Blue / White
2	White / Orange	Orange / White
3	White / Green	Green / White
4	White / Brown	Brown / White
5	White / Slate	Slate / White
6	Red / Blue	Blue / Red
7	Red / Orange	Orange / Red
8	Red / Green	Green / Red
9	Red / Brown	Brown / Red
10	Red / Slate	Slate / Red
11	Black / Blue	Blue / Black
12	Black / Orange	Orange / Black
13	Black / Green	Green / Black
14	Black / Brown	Brown / Black
15	Black / Slate	Slate / Black
16	Yellow / Blue	Blue / Yellow

Only the first 8 pairs needed for a single DMC080

## Installing Base Stations

Before you install Base stations, ensure that a site planner defines the base station locations (site survey for deployment) and records the base station information in the host system programming record.

Each base station supports four channels and radio coverage of 50 to 150 metres indoor and 300 to 600 metres outdoor (dependant on site survey and environment).

**Note:** You must install all base stations within 1500 meters of the DMC. Always make a cable delay measurement to ensure seamless handover between base stations.

Avoid installing base stations on large concrete or marble columns because these columns affect radio coverage. If possible, place the base station a minimum of one meter from these types of columns. Do not install a base station

with the antenna housings near metal objects. Do not position base stations in ducts, plenums, or hollow spaces used to transport environmental air except where the duct, plenum or hollow space is created by a suspended ceiling having lay-in panels.

To expand a coverage area with base stations, additional base stations must be placed in such a way that overlap between the base stations radio coverage is established. It is recommended that the overlap is at least 10 to 15 meters.

### **Base Station Wiring**

The Base station is connected using an RJ11 connector, with twisted pair from a Cat4 cable or similar, however the connection at the DMC is RJ45.

On a DMC080, two base stations can be connected from the RJ45 connection on the DMC, and four base stations per RJ45 connector on the DMC320 (eight base stations in total, having two RJ45 interfaces).

Use the following tables to determine which pairs to use for which base stations:

Please note that on the RJ11 interface, it is always Pins 2 and 3 that will be used for the twisted pair. This is regardless of the base station numbering.

#### **DMC080**

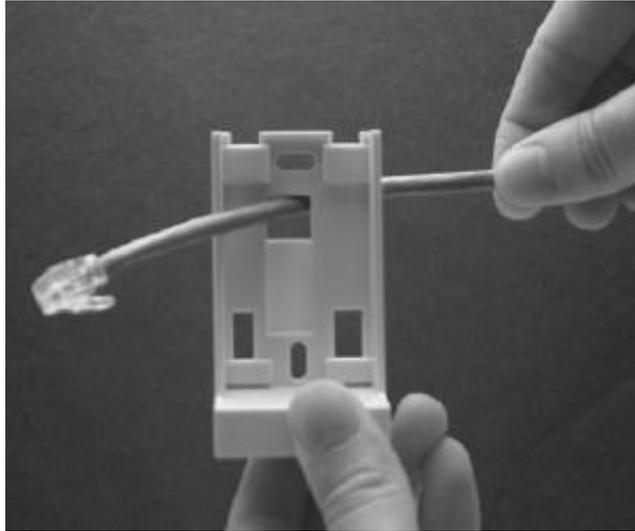
RJ45 Connector	
Base station	Pins
0	4 - 5
1	1 - 2

#### **DMC320**

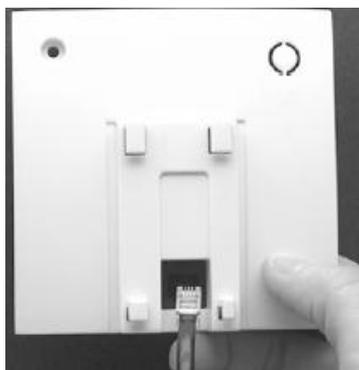
RJ45 Connector 1	
Base Station	Pins
0	4 - 5
1	1 - 2
2	3 - 6
3	7 - 8
RJ45 Connector 2	
Base Station	Pins
0	4 - 5
1	1 - 2
2	3 - 6
3	7 - 8

## ***Installing the Base Station***

1. Use a twisted pair wire, e.g. Cat 4, between the DMC and the base station with an RJ11 connector at the base station end of the wire. Connect the wire to the plug using the two inner connectors of the plug. Pull the wire through the wall bracket.



2. Mount the wall bracket on the wall using the screws accompanying the base station. Do not fasten the screws completely to allow for adjustments of the wire length when connecting the wire to the base station.
3. Connect the RJ11 plug to the rear of the base station. Adjust the length of the wire, and then fasten the wall bracket.

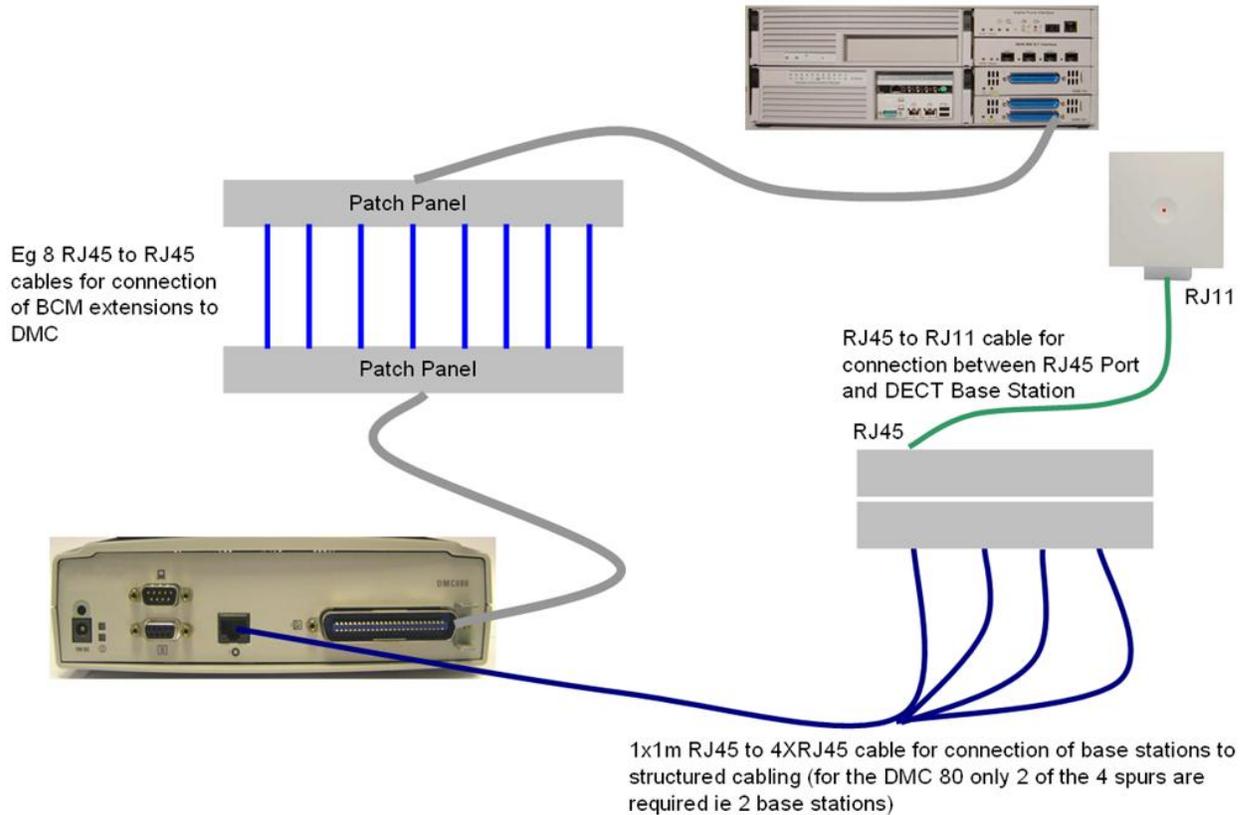


4. Click the base station to the wall bracket.

**Note:** If you need to remove the base station, separate it from the wall bracket with a gentle push of a screwdriver inserted between the wall bracket and the base station.

## BCM DECT Cable Installations Utilizing Structured Cabling

The DMC can be interfaced with the BCM via structured cabling. This could be achieved by using combination of topology as outlined in the diagram below.



## Installing Repeaters

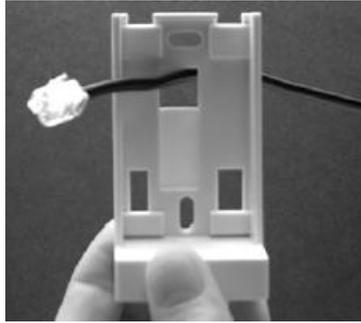
Repeaters are wireless so relatively easy to install. They are used to extend the radio coverage of a given base station, but do not have the ability to increase the number of channels available from each base station. They support 2 channels only, utilizing these from the four available of the base station they are assigned to.

The repeater can only be registered on the system when placed within the coverage area of a base station or within the coverage area of an already-installed repeater. Up to six repeaters can be used to extend radio coverage for a base station.

Installing repeaters requires a software installation / programming as well as a hardware installation.

1. Pull the power supply wire through the wall bracket, and mount the wall bracket on the wall using the screws accompanying the repeater. Do not

fasten the screws completely to allow for adjustments of the wire length when connecting the wire to the base station.



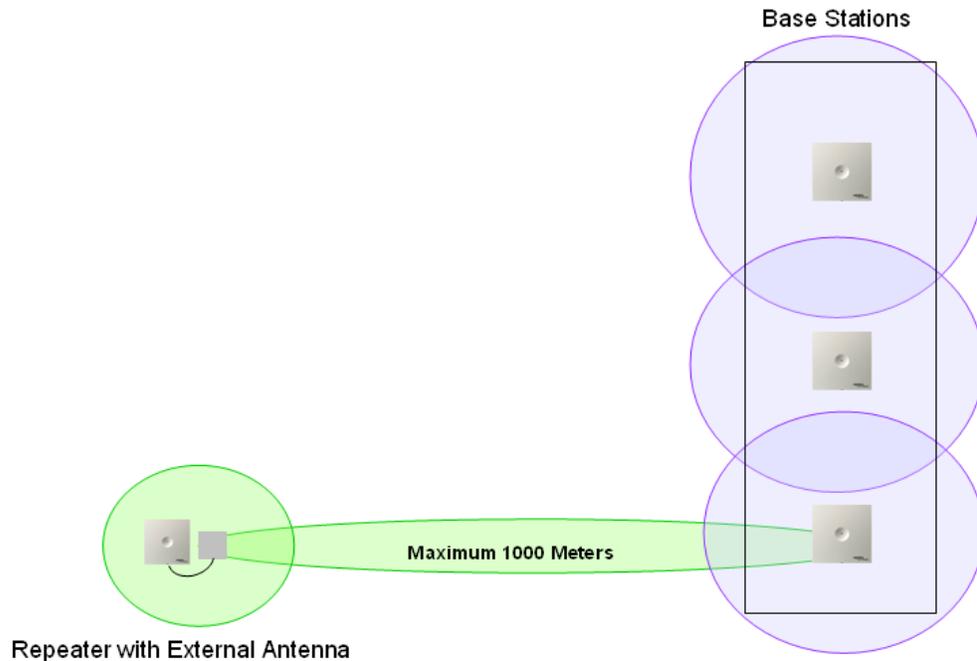
2. Connect the RJ11 plug to the rear of the repeater. Adjust the length of the wire, and then fasten the wall bracket.



3. Click the base station to the wall bracket.

## ***Installing External Antenna***

The repeater can be fitted with an external antenna to increase the coverage area further. The antenna points to an external position to create a remote cell up to 1000 meters from the base station.

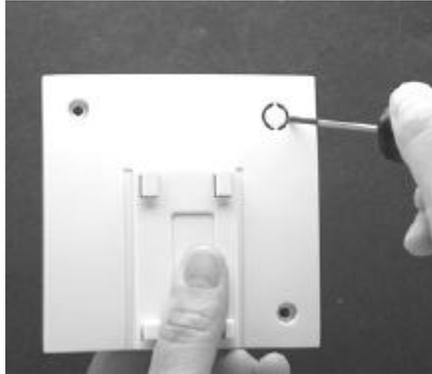


The external antenna used for the repeater is to be fixed-mounted on indoor permanent structures providing a separation distance of at least 20 cm from all persons during normal operation and must not be co-located or operating in conjunction with any other antenna or transmitter.

The external antenna can be placed up to one meter from the repeater and must be placed in the direction of the base station that the repeater should synchronise with. If the external antenna and repeater is part of a repeater jump, the antenna should be directed towards the repeater to be synchronised with.

The external antenna comes with a wall mounting holder into which the external antenna can be clipped on to the main unit.

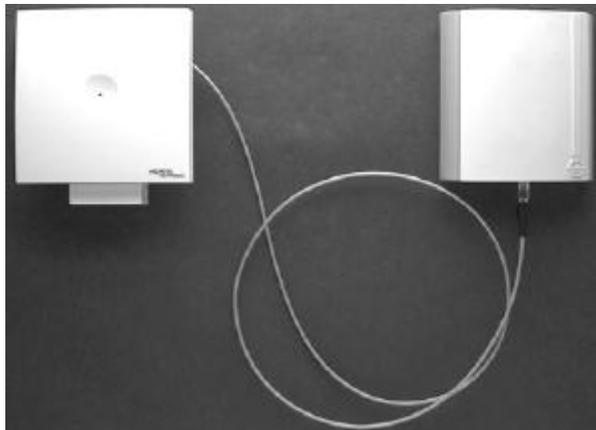
1. To connect the external antenna to the repeater, break off the tab covering the antenna connection at the rear of the repeater.



2. Mount the wall bracket for the external antenna on the wall using the accompanying 30mm screws.



3. Simply clip the Antenna into position on the wall mounting bracket and connect the antenna cable at the rear of the repeater with the connection plug at the bottom of the external antenna.



## ***Programming a Repeater***

With the base stations and repeaters installed, it will now be necessary to program the repeaters to synchronise with their respective base stations.

A base station can have up to six repeaters programmed to it, increasing the radio coverage. But each repeater must also be programmed with a Repeater Number that will not interfere with the synchronisation and any adjoining repeater.

The repeaters are configured using the Digital Mobility Service Tool. You will need to install the **Digital Mobility Service Tool** application from the BCM to the computer that is to be used to program the repeater.

The Digital Mobility Service Tool may be run on the following operating systems:

- Windows XP Professional SP3
- Windows Vista SP2 32 bit
- Windows 7 Professional, Ultimate and Enterprise 32 bit

System Requirements:

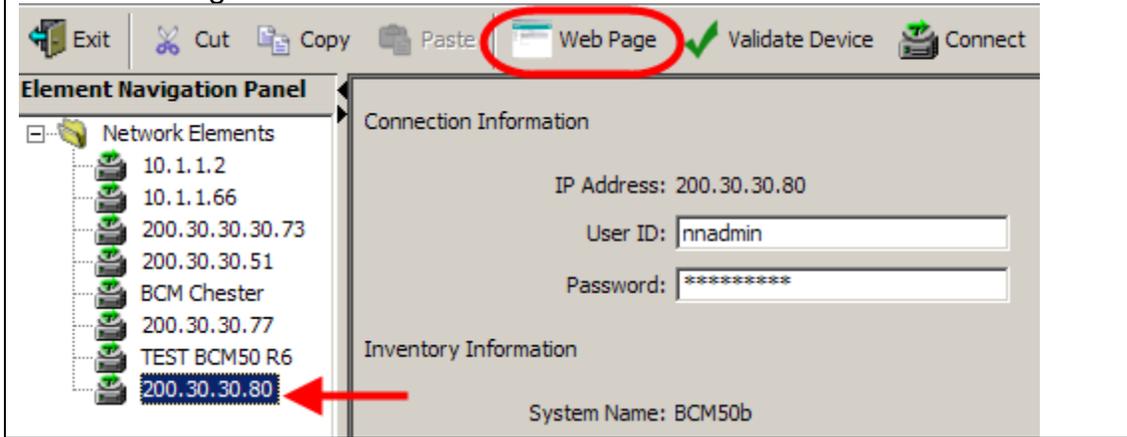
- Minimum 200Mhz (Intel/AMD)
- Minimum 10 MB RAM recommended

1. Open Internet Explorer. In the address field type (replacing the relevant part with your BCM IP address): **http://<bcm ip address>/**

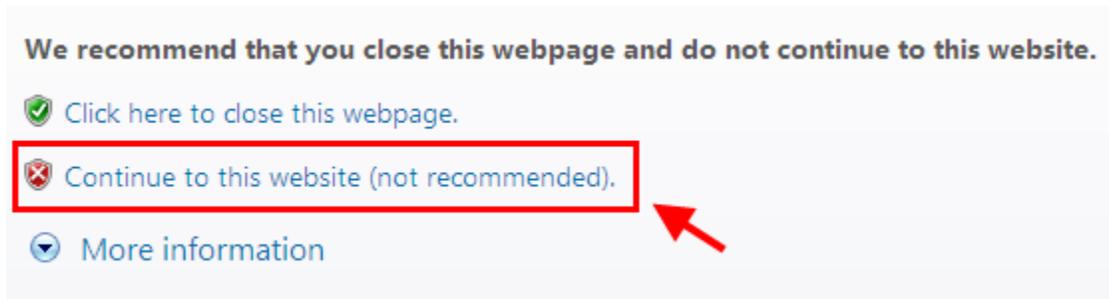


2. Click on **Go**, or press Return on your keyboard.

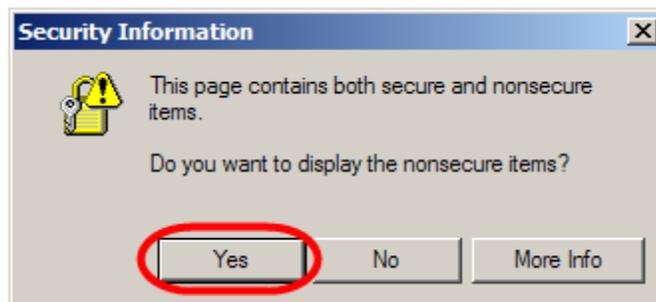
**Note:** You can also use the Web Page button in Element Manager to launch a web browser session. The BCM you wish to access must be selected in the Element Navigation Panel to do this.



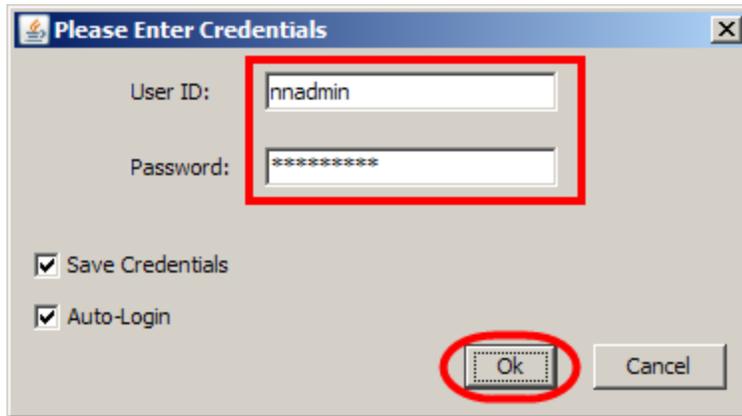
3. If you are presented with the Certificate Error window, click on **Continue to this website (not recommended)**.



4. Accept any further security messages that you may get presented with.



- You will now see the login screen, enter your BCM User name and Password. By default these are set to User ID: nnadmin Password: PlsChgMe! Click on **OK**.

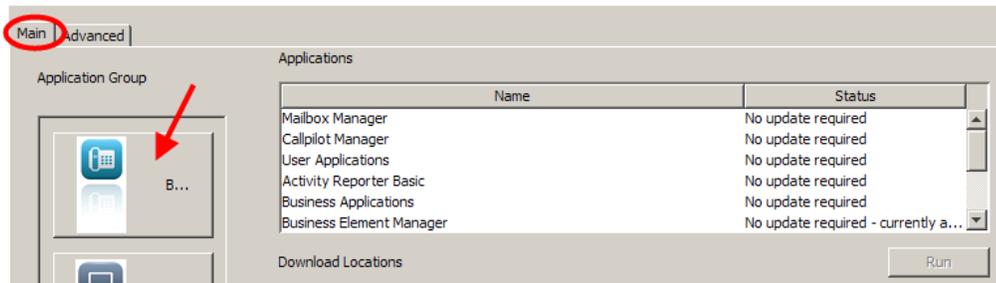


- In the Welcome to BCM window, ensure the **Main** tab has been selected, and the **BCM** button clicked.

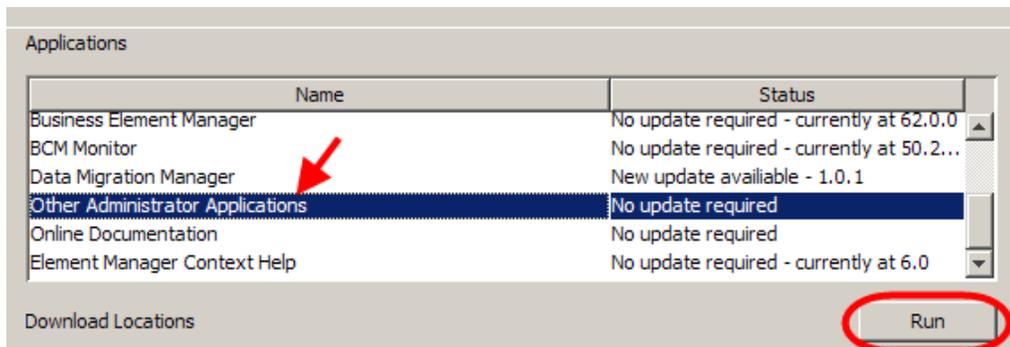
**Welcome**

to

**BCM**



- From the **Applications** list, select **Other Administrator Applications** and click **Run**.



8. Again, accept any security messages that appear, and if prompted enter any login details.
9. The Administrator Applications screen will be displayed.
10. The **Administration Applications** page will be displayed.



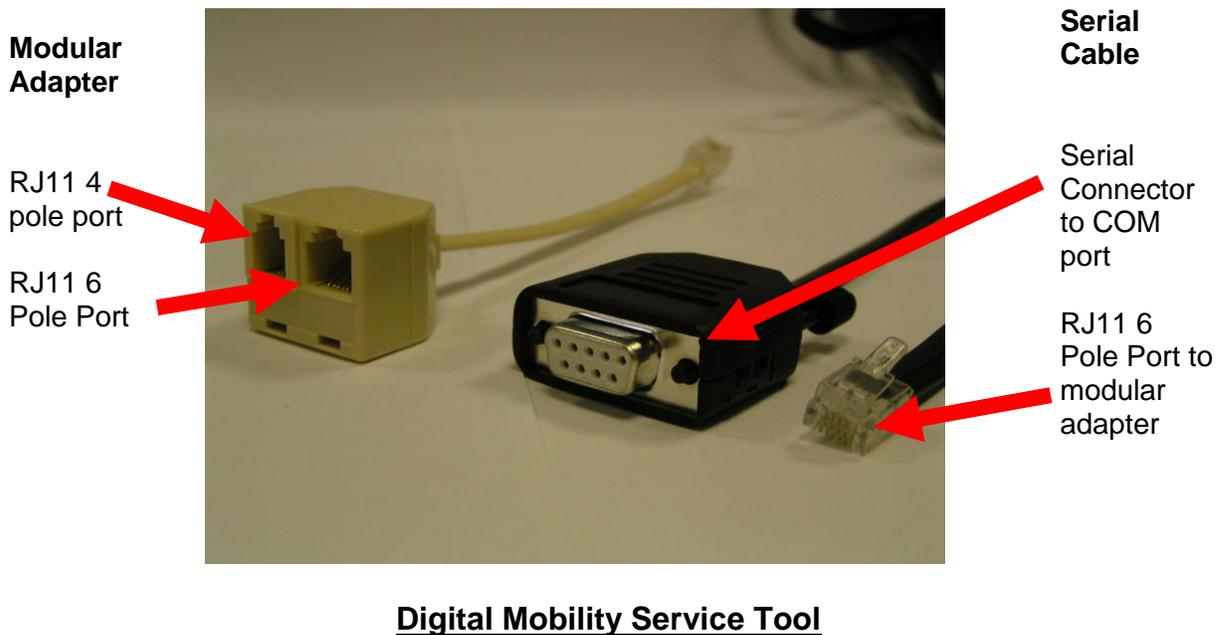
11. Then select the **Digital Mobility Service Tool** link.

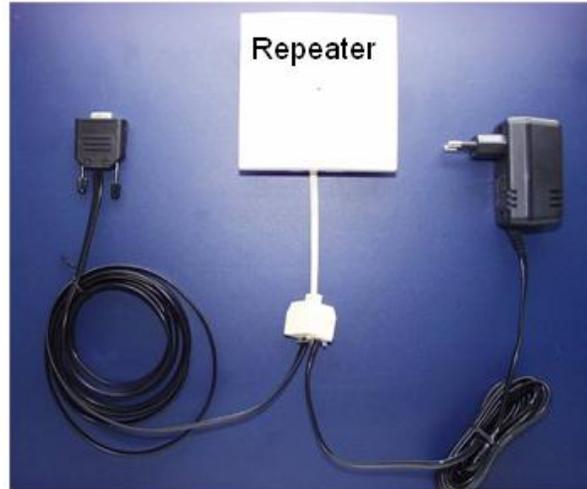


12. Select the link to download the Service Tool and download the software to your computer.

The screenshot shows a web page titled "Administrator Applications" with a sidebar menu and a main content area. The sidebar lists "Administrator Management Tools" (CallPilot Manager, Business Element Manager, Desktop Assistant PRO AE, NCM For BCM, BCM Monitor, CallPilot Unified Messaging, CDR Clients, BCM MIBs, RADIUS Dictionary, SSH Client (PuTTY), BCM Logs) and "Digital Mobility Tools" (Digital Mobility Controller, Digital Mobility Service Tool). The main content area is titled "Digital Mobility Service Tool" and features a "Download Digital Mobility Service Tool" button with a red arrow pointing to it. Below the button is a warning icon and the text "See Important Notes Below". A list of capabilities includes Repeater programming, Handset firmware upgrading, Handset audio-gain adjustment for noisy environments, and Handset Microphone and loudspeaker gain adjustment. A note at the bottom states that using the tool requires a programming cable and a handset programming cradle, with specific requirements for different handset models.

13. Once the application has been downloaded, you will need to connect the computer to the repeater. This is done using the Service Tool.

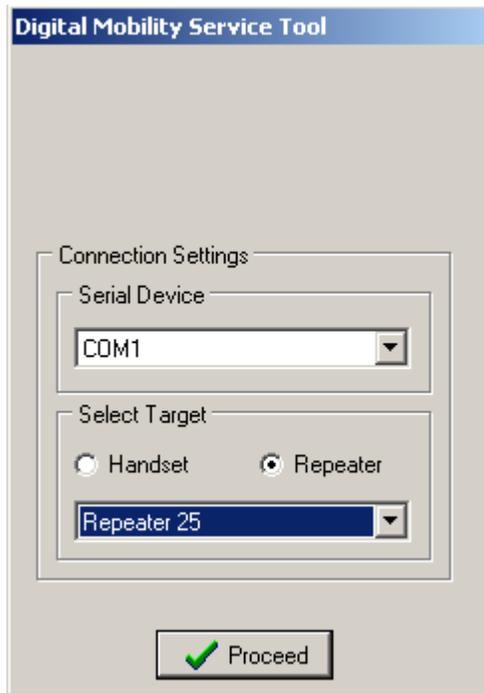




14. Unplug the power supply from the repeater and connect the modular adapter to the repeater port. Connect the power supply to the adapters RJ11 4pole port and the serial cable to the RJ11 6 pole port.
15. Attach the 9 pin serial connector to the computers COM port.
16. With the Service Tool attached to the repeater and computer, run the installed application **Digital Mobility Service Tool**. This can be run from the start menu for example:

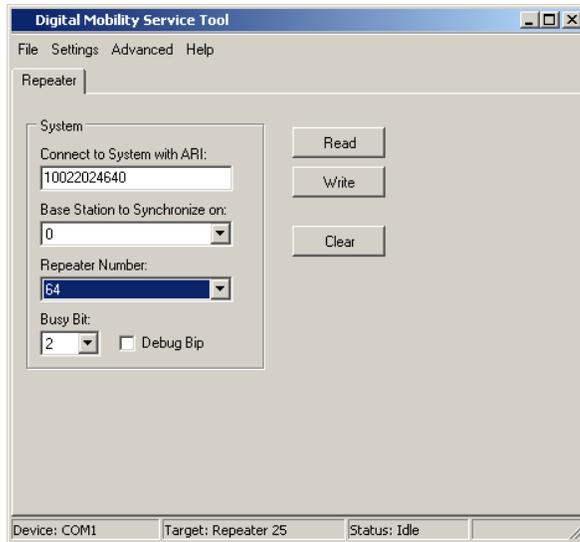


17. Once opened the Connection settings screen will appear. Confirm the COM port number attached to the '**Serial Device**'. Select the required repeater from the drop down list. In this example a '**Repeater 25**' has been selected. Click the **Proceed** button.



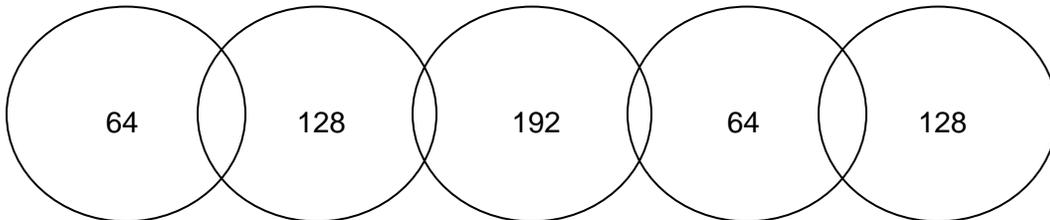
18. The programming window will now be launched. You will need to input the **ARI number** of the DMC. This is found on the **System** label found on the back of the DMC. You can also read the ARI code using the **System Information** command under the **Settings** menu in the **DMC OAM** program.

19. Next input the Base station that the repeater is to synchronize with, and the repeater number (use the table 1 to determine the correct repeater number).



**Note:** When configuring numbers for Repeaters in a repeater jump, if you intend to use more than three repeaters, then the number scheme would start again after the third repeater in the jump.

In this example the repeaters are associated with the first base station 0 therefore the first repeater is repeater 64. After the third repeater 192, the numbering process starts again for the fourth repeater, indicated as 64.

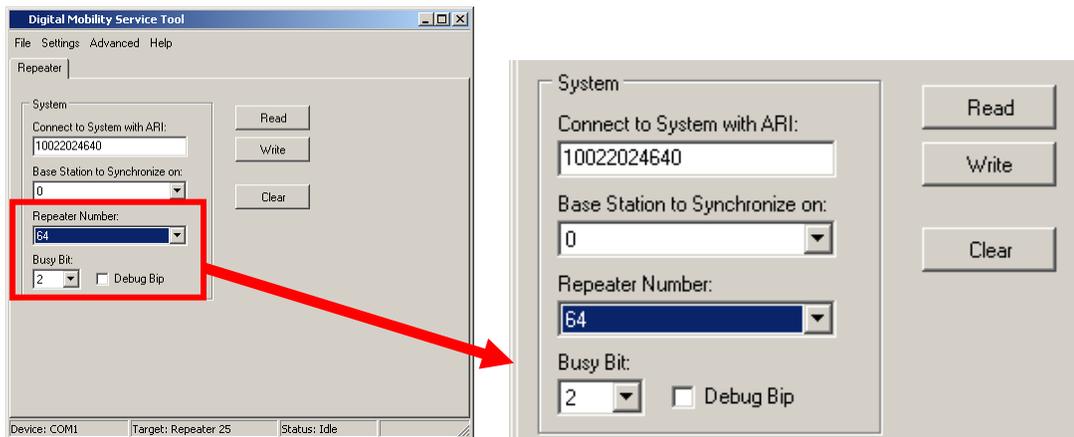


**Table 1**

Base Station	Repeater 1	Repeater 2	Repeater 3
0	64	128	192
1	65	129	193
2	66	130	194
3	67	131	195
4	68	132	196
5	69	133	197
6	70	134	198
7	71	135	199

8	72	136	200
9	73	137	201
10	74	138	202
11	75	139	203
12	76	140	204
13	77	141	205
14	78	142	206
15	79	143	207

20. For the **Busy Bit** field, leave the default setting to **2**. Selecting the **Debug Bit** check box is useful for error findings on the system. When selecting the **Debug Bit** check box, the handset beeps when it logs on the repeater. When the handset is off hook and connected to the repeater, you will hear a beep every three seconds in the handset. In normal operation, this should be left unchecked.



21. Click **Write** to confirm the settings and program the repeater. Then click **Read** to check that the settings are as required.

22. The repeater has now been programmed.

The Digital Mobility Service Tool also allows the following aspects of the Digital Mobility solution to be managed

- Handset firmware upgrading
- Handset audio-gain adjustment for noisy environments
- Handset Microphone and loudspeaker gain adjustment

Use of this tool requires a programming cable and a handset programming cradle. For Digital Mobility Handset 743x/744x and DECT Handset 413x/414x the regular charging stand is used.

## Configuring the Digital Mobility Controller (DMC)

Now that the base stations and repeaters have been assigned and programmed, the Digital Mobility Controller can now be configured.

Power up the DMC by plugging the power supply cable into the front power point.



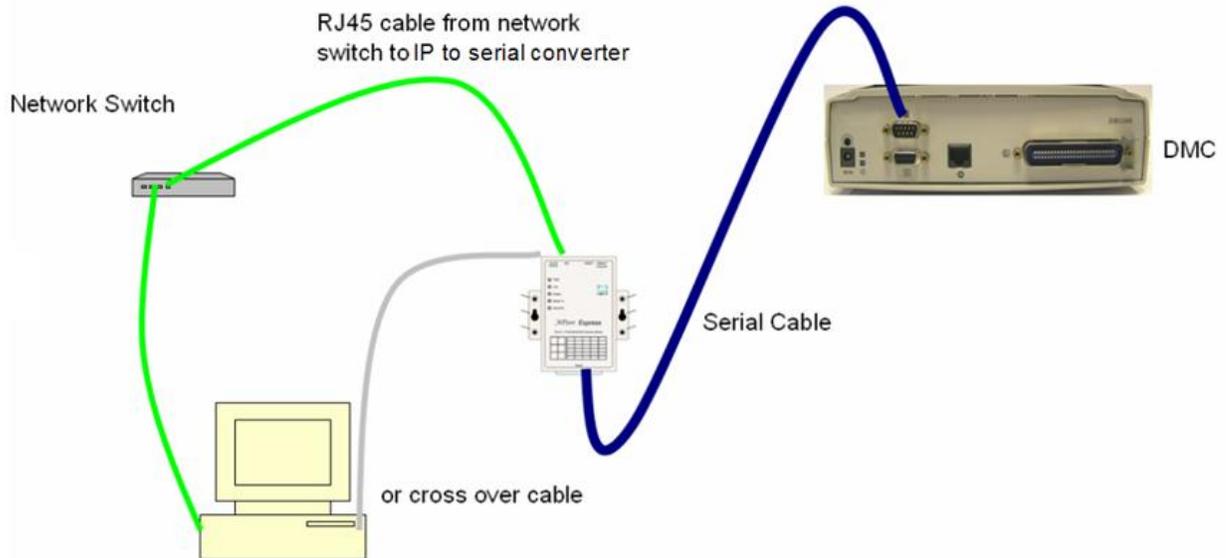
### Connecting to the DMC

There are two methods of connecting to the DMC, these being a direct connection with a null modem cable or the use of an IP to serial converter.

**Note:** It should be stated that the null modem cable should use 8 pins of the required serial connection, so some of the null modem cables available may not provide all of the necessary connections. Please refer to the Avaya documentation for a detailed explanation of the pins being used.

Both of the suggested connection methods require connection to the COM port on the DMC.

For IP to serial converter devices please refer to the documentation that is included with the converter device itself.



### Examples of possible IP to Serial Converter connections

#### **Configuring the DMC**

The DMC can be programmed using the Digital Mobility Controller OAM (Operation, Administration and Maintenance) program. This is again downloaded from the BCM. Using this interface, it is possible to configure the DMC on following parameters that are useful when setting up the system.

Parameter	Action
Change Password	When starting the DMC OAM program you will be prompted for a password. The default password is: <b>default</b> . It is recommended to change this password at the earliest opportunity.
Suppression Control	If necessary, you can change the suppression level to make the handsets function better in different noisy environments.
Subscription	The subscription setting must be set to <b>Allow Subscription</b> before additional handsets can be subscribed to the system. This allows the DMC to send out its ARI code so the handsets read which system to log onto.
Cable Delay	Following the installation of the DMC and the base station, a cable delay measurement must be taken in order to synchronize the system. The cable delay measurement will trigger the system to reboot and all calls will be dropped.

## Installing the Digital Mobility Controller OAM

Direct connection is completed through a null modem cable connected to the RS232 port on the DMC and the serial port on the PC.

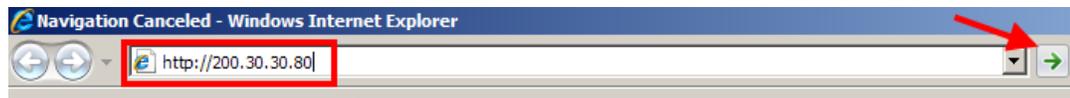
The Digital Mobility Controller may be run on the following operating systems:

- Windows XP Professional SP3
- Windows Vista SP2 32 bit
- Windows 7 Professional, Ultimate and Enterprise 32 bit

System Requirements:

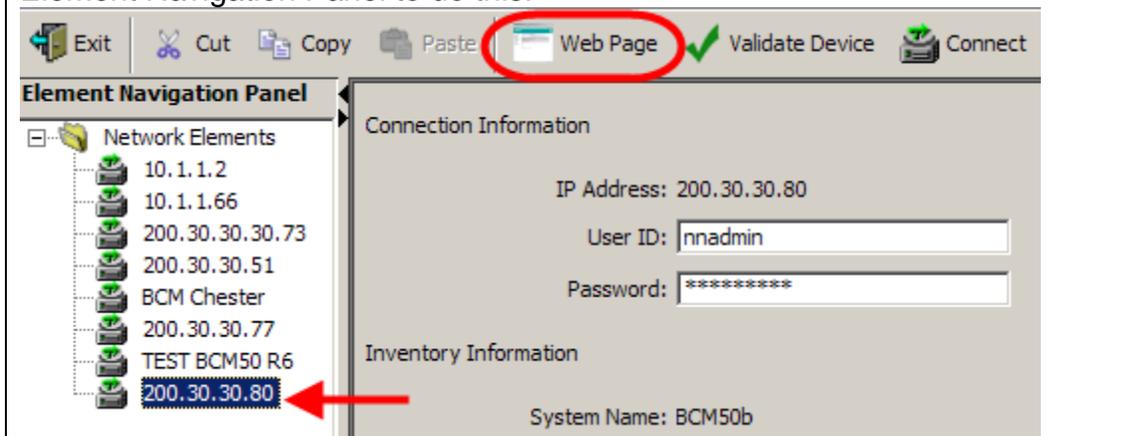
- Minimum 200Mhz (Intel/AMD)
- Minimum 10 MB RAM recommended

1. Open Internet Explorer. In the address field type (replacing the relevant part with your BCM IP address): **http://<bcm ip address>/**

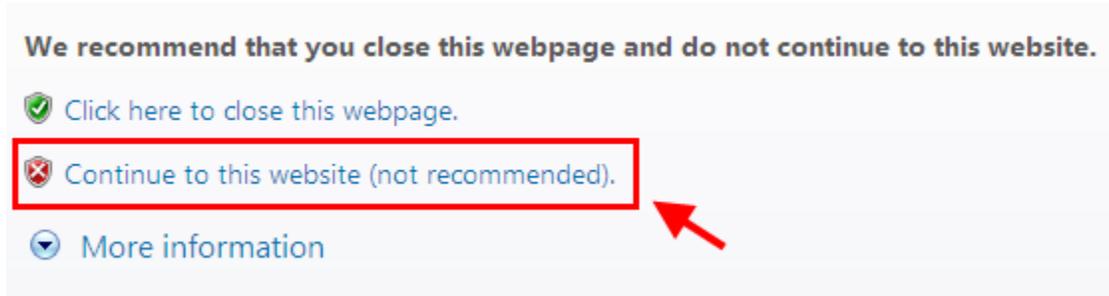


2. Click on **Go**, or press Return on your keyboard.

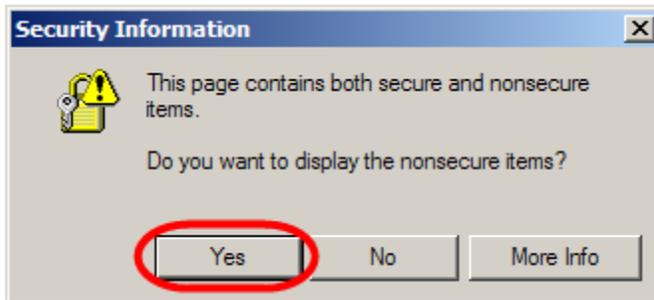
**Note:** You can also use the Web Page button in Element Manager to launch a web browser session. The BCM you wish to access must be selected in the Element Navigation Panel to do this.



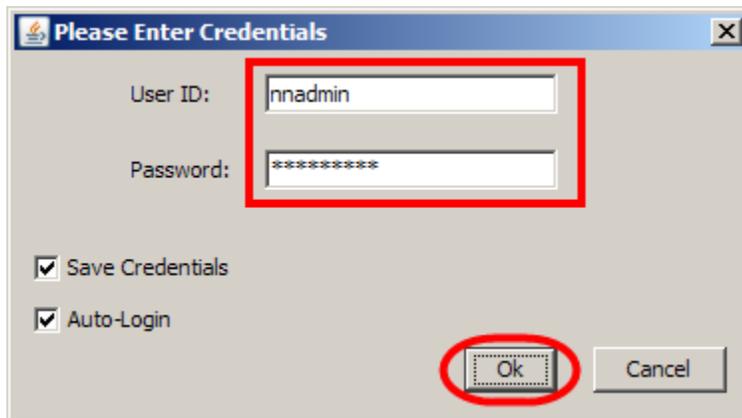
3. If you are presented with the Certificate Error window, click on **Continue to this website (not recommended)**.



4. Accept any further security messages that you may get presented with.



5. You will now see the login screen, enter your BCM User name and Password. By default these are set to User ID: nnadmin Password: PlsChgMe! Click on **OK**.

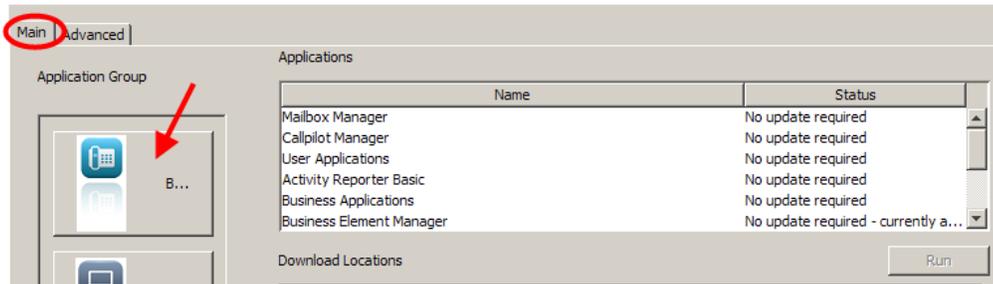


- In the Welcome to BCM window, ensure the **Main** tab has been selected, and the **BCM** button clicked.

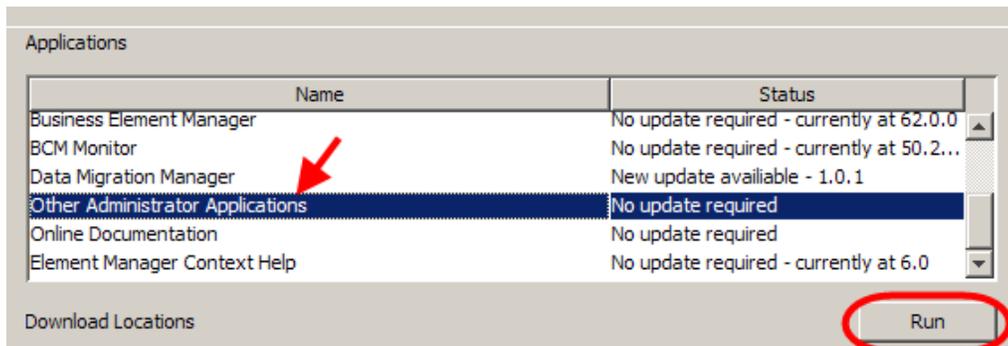
**Welcome**

to

**BCM**



- From the **Applications** list, select **Other Administrator Applications** and click **Run**.



- Again, accept any security messages that appear, and if prompted enter any login details.
- The Administrator Applications screen will be displayed.

10. The **Administration Applications** page will be displayed.



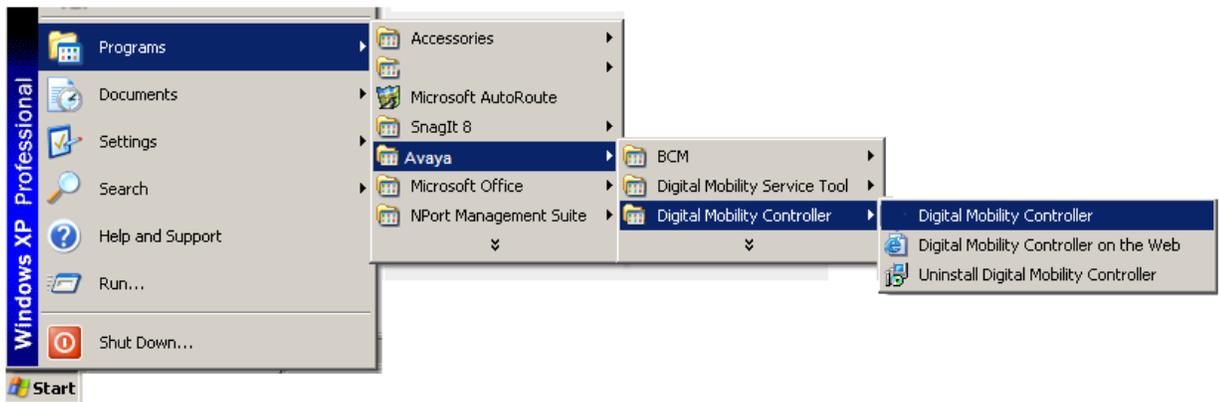
11. Then select the **Digital Mobility Controller** link.



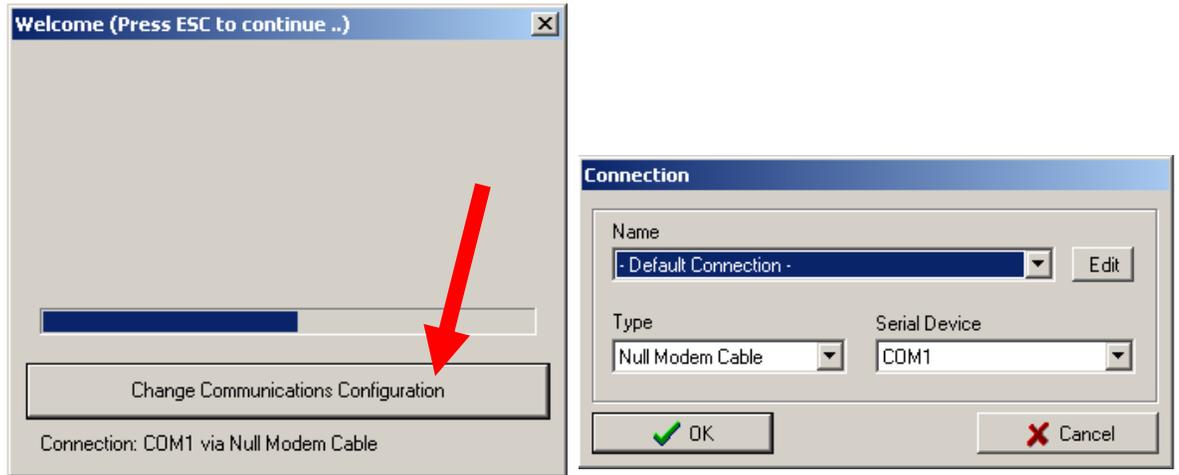
12. Select the link to download the **Digital Mobility Controller** and download the software to you computer.



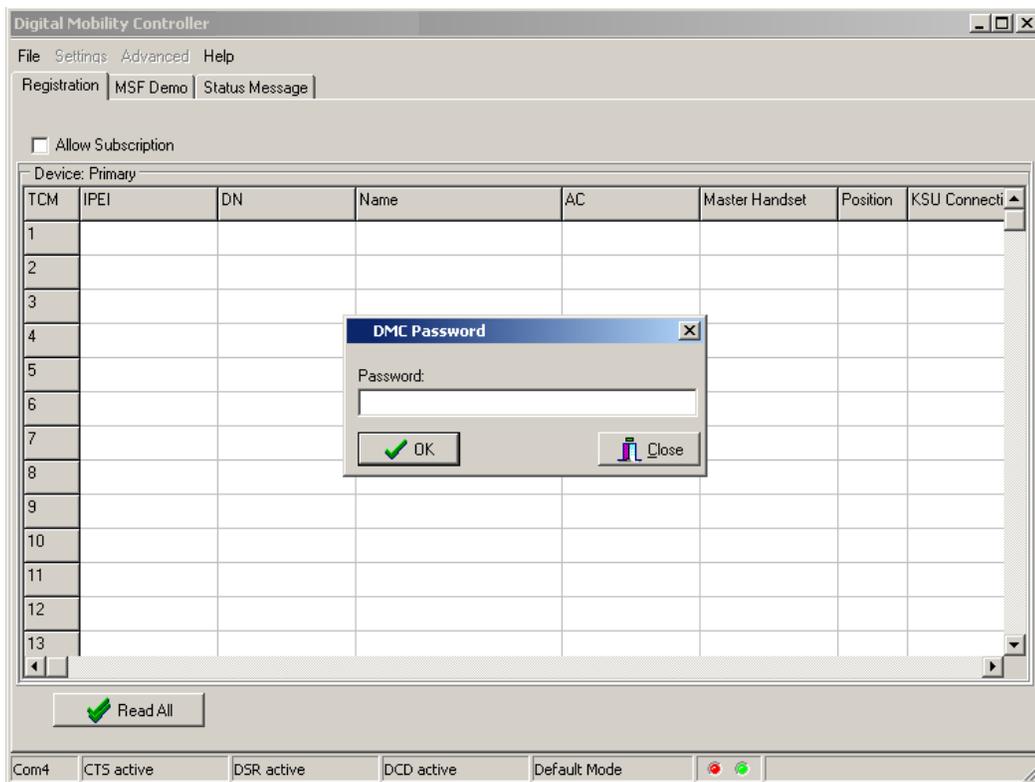
13. Once installed, run the installed application **Digital Mobility Controller**. This can be run from the start menu for example:



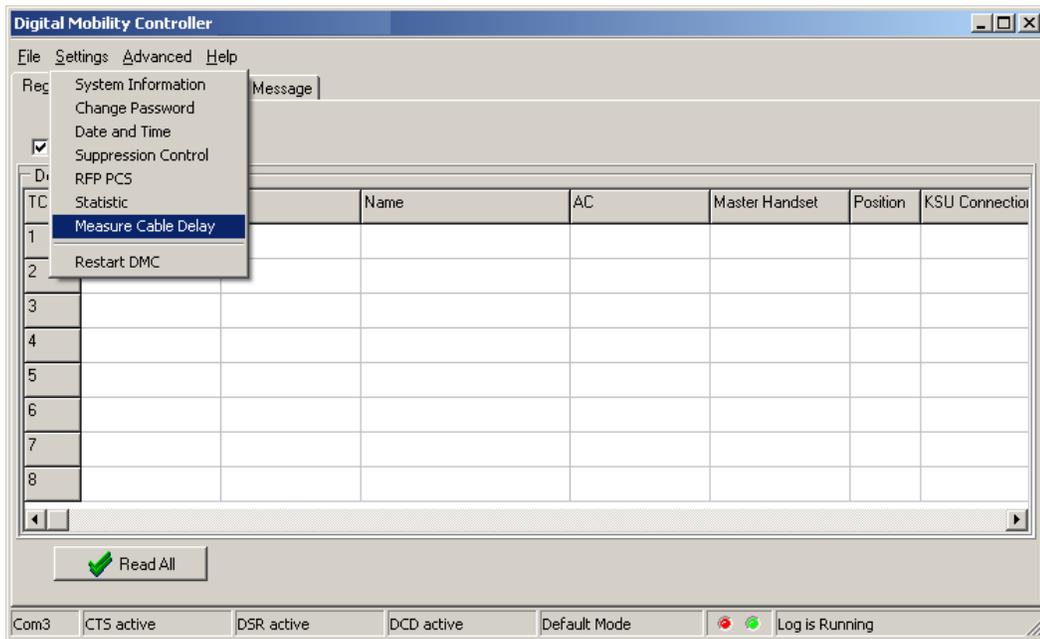
- The Connection dialogue box will appear. For the Serial device, select the COM Port number that the DMC is connected to on your computer and click **OK**. If you wish to change the communications settings click on the **Change Communications Configuration** button.



- The Digital Mobility Controller OAM will be launched, presenting you with a Password dialogue box. Type the password “**default**” and select **OK**.



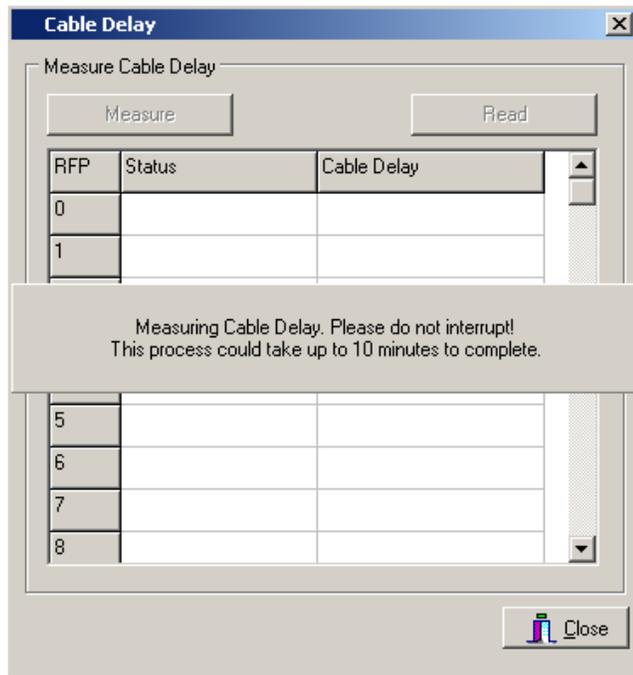
16. The DMC screen will show a grid for each of the handsets dependant on whether you are configuring a DMC080 or a DMC320 as to the number of TCM loops available for handsets.
17. Select the command **Settings** and click **Measure Cable Delay** from the drop down menu. This will allow you to synchronize the base stations connected to the DMC.



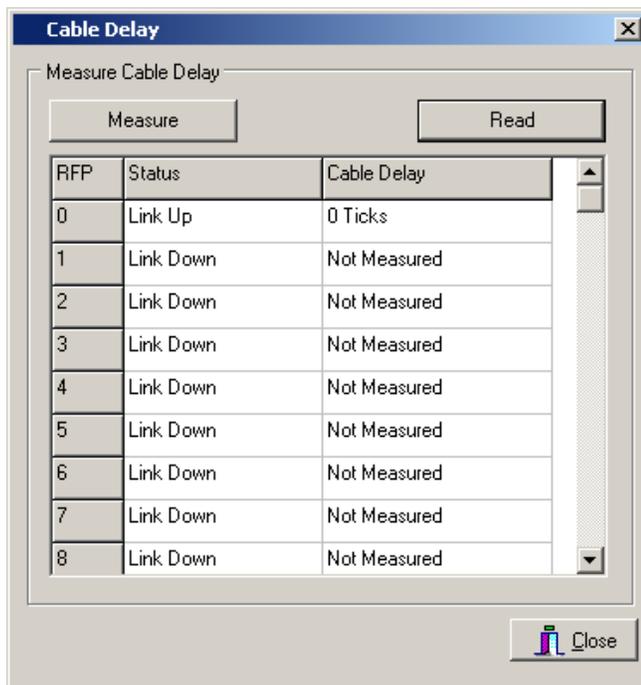
18. On the next screen click **Measure**. A warning will appear asking you to confirm the measurement. Click **OK**.



19. Another dialogue box will appear saying that the measuring could take up to 10 minutes to complete. Leave this to run and eventually the Password dialogue box will appear again.



20. Type the password '**default**' and then click 'Read'. The base stations will now be displayed with a number of ticks against the measurement of their distance to the DMC.



21. The base stations are now synchronised with the DMC and ready for use.

## **Registering Handsets**

This section provides you with information about handset registration and subscription. You must register and subscribe a handset before you can use it. The section also contains information about host system features and host system and handset interoperability.

When registering handsets you enter information about the handset settings (such as; the handset serial number, name, directory number etc.) in the system database. When subscribing handsets you subscribe a registered handset to the system for usage. If the handset is not registered in the system database, subscription of the handset is not possible.

When a connection between a DMC and the system is established, the DMC OAM program displays all the information for registering handsets.

### ***Finding the IPEI number of a Handset***

The IPEI (International Portable Equipment Identity) number of the handset is required to register it using the DMC OAM. There are two methods available for finding the IPEI.

1. If the Handset battery has not yet been charged, then remove the back cover and battery to view the Serial Number (first 12 digits)



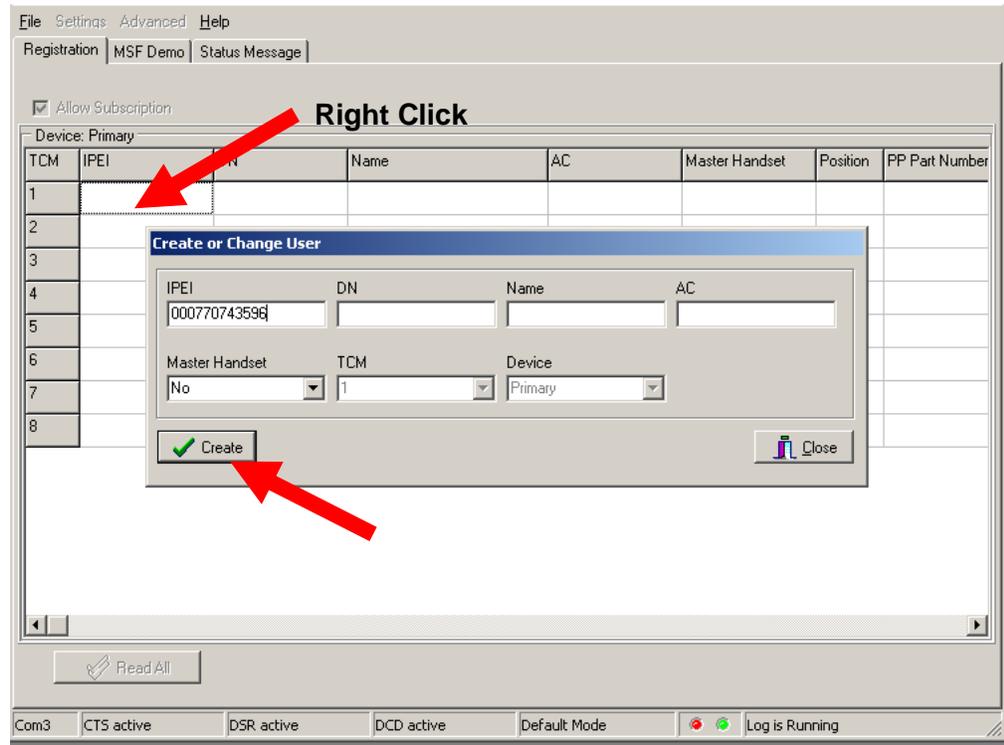
2. With the battery fully charged and handset powered on, press **\*99984\***✓ the handset will display the IPEI number on the second line of the display.

With the IPEI Number now available, the handsets can be registered with the DMC.

## Registering a Handset using the DMC OAM

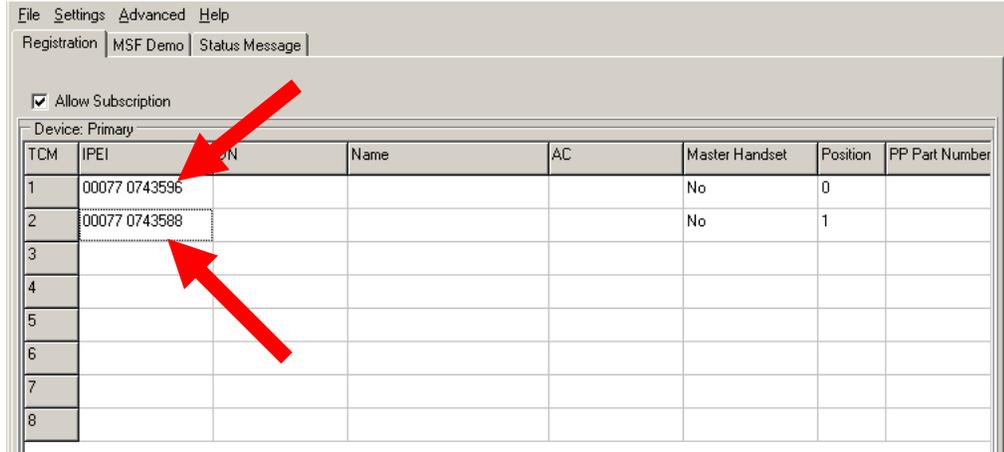
If you have closed the DMC OAM interface, then follow steps 5 to 8 of the previous section.

1. Highlight and right click on a line next to a TCM number and select “Create”.

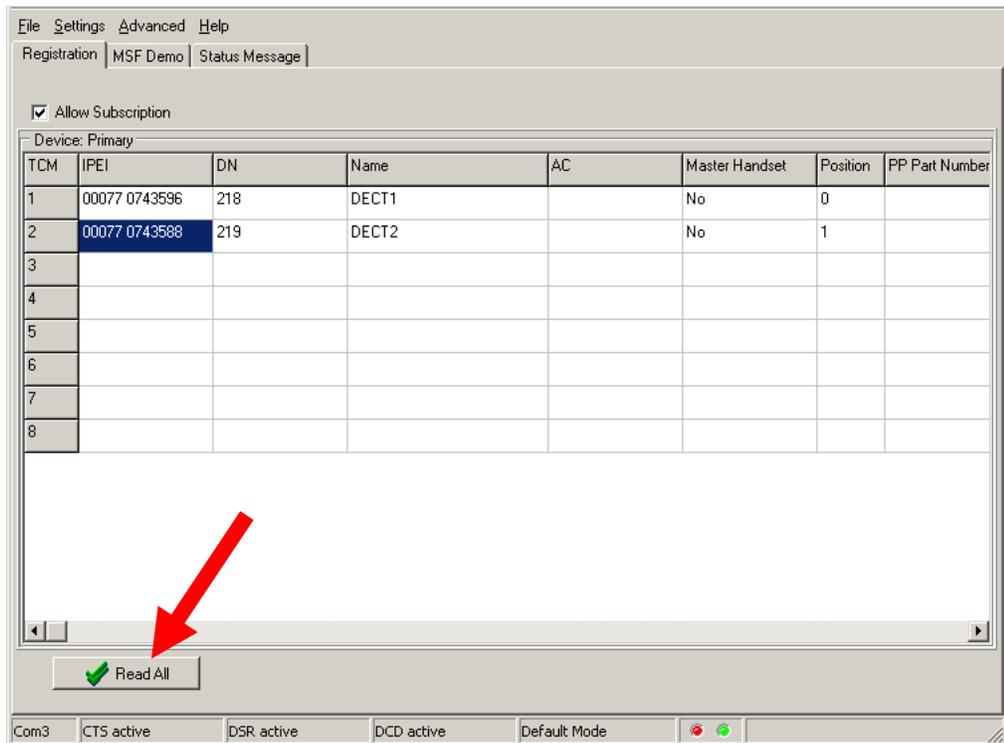


2. In the **IPEI** Field type the number recorded for the handset you wish to register. Select if this is to be a Master handset or not (with special privileges).
3. In the **AC** field, type the authentication code (optional). The authentication code is a subscription password of a maximum eight digits that can be used when subscribing the handset to the DMC (this may be left blank depending on the customer's requirements). Simply click on create.

- The handsets will be seen on each line as you register them.



- Once all of the handsets have been registered, click on the button “**Read All**”. This will update the handsets in relation to their physical connection to the BCM, including their DN number.



- The handsets are now registered, but will need to be subscribed.

## ***Subscribing Handsets***

On the Digital Mobility Handsets perform the following sequence:

1. Press **MENU** key.
2. Press the **Left** arrow (<) key twice to display “**MENU LOGIN**”. Press **OK** (✓).
3. Press the **Left** arrow (<) key twice to display “**SUBSCRIPTION CREATE**”. Press **OK** (✓).
4. “**SUBSCRIPTION SEARCH ID:**” appears displaying the DMC number. Press **OK** (✓).
5. “**CREATE SYSTEM 01 AC:**” appears. Enter an AC as required (based on whether an Authentication Code was created during the registration process), then press **OK** (✓).

The handset will now display the DN assigned to it and is operational.

## ***Registering a Master Handset using the Handset***

When powering up the DMC, the system automatically enters into subscription mode for 10 minutes. This is the time that is available to subscribe the first handset which automatically becomes the Master handset.

<p><b>Note:</b> Registration of the first handset - the Master handset - is done automatically when subscribing the handset to the system.</p>
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1. Power up the handset.
2. Press **MENU** key.
3. Press Left arrow key twice to go to “**MENU LOGIN**”.
4. Press **OK** (✓).
5. Press Left arrow key twice to display “**SUBSCRIPTION CREATE**”. Press **OK** (✓). The handset will now search for the serial number of the system.
6. As soon as the right serial number of the system appears in the display press **OK** (✓). (The serial number is indicated on the label on the rear of the DMC).

7. “**CREATE SYSTEM 01 AC:**” appears. Enter an AC as required (based on whether an Authentication Code was created during the registration process), then press **OK** (✓)

An antenna symbol will appear in the display to indicate a successful subscription.

The handset has now become the Master handset for the system and will be placed on TCM loop no. 1.

**Note:** It is possible to have more than one Master handset. Registration and subscription of additional Master handsets through a Master handset follows the same procedure as for registering additional handsets and subscribing handsets which is described in the next section. This means that an additional Master handset is not registered automatically when subscribing it to the system.

### ***Registering Additional Handsets***

1. Press **MENU** and the arrow keys to go to “**EXT. SERVICE**”.
2. Press **OK** (✓) to enter the next level of options. Using the arrow keys go to “**CONFIG. USER**”.
3. Press **OK** (✓). Using the arrow keys go to “**ADD**”.
4. Press **OK** (✓). Using the arrow keys go to “**ENTER POS.**”
5. Press **OK** (✓). Using the arrow keys enter the position of additional handsets.
6. Press **OK** (✓). “**IPEI**” appears in the display. Type the serial number of the handset. The IPEI serial number is found on the label behind the battery pack.
7. Press **OK** (✓). “**AC**” appears in the display. Type an authentication code (max. eight digits) (AC is optional).
8. Press **OK** (✓). “**SPEC. RIGHTS**” appears in the display. Special rights are only given to additional Master handsets. Select No SPEC. RIGHTS.
9. Press **OK** (✓). Select “**PRIMA**” or “**SECOND**”. Secondary is only an option if the handset is being registered on a linked system. In a linked system there is a Primary DMC and a Secondary DMC.

10. Press **OK** (✓). “**TCM LOOP**” appears in the display. Type the TCM loop number of the chosen Primary or Secondary DMC, and then press **OK** (✓). A Successful message appears in the display.
11. To register another handset, press **OK** (✓) and repeat steps 2 to 10.
12. Press the **MENU** key to exit.
13. Once registered, the handsets will still need to be subscribed to the system. Please refer to the **Subscribing Handsets** section of this guide.

## Avaya Documentation Links

- [Digital Mobility System Installation and Configuration Guide](#)
- [Digital Mobility Phone 413X and 414X User Guide](#)
- [Digital Mobility Phone 4145Ex and 4146Ex User Guide](#)
- [Digital Mobility Phone 7420 User Guide](#)
- [Digital Mobility Phone 743X/744X User Guide](#)