

# Hytera DMR Radio Code Plug

Models: PD785 & MD785

*(Requires Radio Firmware v7.00)*

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## 1. Introduction:

This code plug is set up to provide the user with a comprehensive list of channels and features enabling the radio to be used anywhere in the UK on both the digital DMR D-Marc networks and on Analogue channels (Repeaters and Simplex).

Whilst a number of Zones are pre-programmed with easy to use channels it is anticipated that the user might want to modify or simplify this on his/her particular radio in order to personalise it.

I've made every effort to ensure that channels are both descriptive and flexible in the way that you use them and information contained therein is accurate. With such a large amount of information it is likely there are a few mistakes and I will correct these as soon as I'm aware of them. Where possible I've included the verbose name for each repeater so you know which one you are using. This is particularly useful when travelling to new areas.

DMR is expanding rapidly and as a result talk-groups and live repeaters are changing at a very fast rate as the network expands and I'll do my best to keep up with it.

Whilst some standards are agreed and with many repeaters following them it's important to note that not all areas use them or are even connected to the D-MARC network. For that reason clusters or smaller networks are beginning to emerge that don't always follow the standard D-MARC rules so it's important to have your radio programmed accordingly.

My plan is to include these clusters meaning you are able to connect to the various networks and take advantage of roaming facilities along the way where sites are interlinked.

By allowing the user a number of different ways to use a DMR repeater, greater flexibility is afforded, particularly when in an area that you are not familiar with. For your local repeaters it's easy to have everything set up for channelised access from within a zone. When operating in a new area, you might just want to manually input the talk-group or select a 'Direct Dial' talk group from a drop down list. For more information see 'Direct Dial' section.

Any comments or suggestions are always welcome. I won't guarantee to include all suggestions into my code plug but if you think of something that might be useful and I can see it working with the overall strategy I'll definitely consider it for inclusion. I'll also make any corrections as and when they are pointed out. Use my email address on the front of this document to mail your comments and suggestions over.

Finally, please don't email me just asking for a copy of the code plug. Chris Taylor at Taylor Made RF Ltd handles all distribution. By contacting him and getting on his database, you'll not only receive the code plug but subsequent updates as they become available. I definitely don't have the time or bandwidth to offer this service and code individual plugs for your radio.

Chris can be contacted on the details below:

**Taylor Made RF limited.**

Elstree Aerodrome  
Hogg Lane  
Borehamwood  
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Phone: 020 8953 3861  
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## 2. Disclaimer:

As with all code-plugs the best place to start is with an existing one. Mine is no exception so I can't take all of the credit for work done in creating it. I've simply added information, updated components, personalised and adjusted things to my own expectations. I don't charge for my work on this code-plug and similarly accept no responsibility for any consequences associated with using it.

There is a whole host of information on the internet about DMR and a great place to start is [www.cc-3.net](http://www.cc-3.net) The section on DMR-MARC UK has up to date information and recent additions.

## 3. SCOPE:

This document is a user guide for the code-plug only and how it affects the function of the radio. It is not designed in any way to either compliment or replace the user manual for the radio. However, the code plug does change the radio's user interface and I will try to describe that and make it as intuitive as possible.

Currently this code-plug is set up for use in the UK. To that end, Talk Groups, Channels & Zones will be optimised for use within the UK but may operate on the worldwide networks. I may add in a little other functionality outside of the UK later on but for now this is the scope.

Most UK DMR repeaters follow the D-MARC rules for talk-groups and this will be the default assumption. However where more detailed is available, channels will be programmed to operate repeaters as configured by the repeater groups or owners. An example of this are the sites located on the 'South-West Cluster'. This is a small network of repeaters in the Southwest UK that are NOT connected to the D-MARC network and only use TG9 on slot 1 for local use and TG950 on slot 2 for SWC network use. They also use TG950 for roaming across the SWC.

I will try to include as a bare minimum a channel in the database for TS1 and another for TS2 which can listen on any UK talk group but has NO TX talk-group assigned. This means you can listen to ALL traffic on the said timeslot and by selecting the talk group manually from either the contacts list or the Direct Dial list, you can transmit on any talk group you like giving total flexibility.

#### 4. RADIO CONTROLS & FUNCTIONS (Differs for PD785 and MD785)

The Hytera PD785/MD785 general controls and functions are covered in the user manual. However, there are a number of programmable features, which have been modified specifically by this code plug which are detailed below:

##### 4.1 PD785 Portable Radio Programmable Buttons

###### TK – Top Key (Orange button on top of radio)

This button has been re-programmed for two functions as follows:

1. Short Press - Quick selection of 'direct dials' prefixed DD. These will put you straight onto TG9/S1 of the target repeater if Direct dial is enabled. (Only works in DMR mode).
2. Long Press - Select High or Low TX Power. (Works in all modes).

**Note:** when selecting talk-group from the contacts or the direct dial list you should have selected a DMR repeater on either Slot 1 or Slot 2 which has the RX Group set to (All UK Talk Groups).

###### SK1 – Side Key 1 (Above PTT)

This button has been re-programmed with two functions that operate the radio Squelch.

1. Short Press – Open Squelch or MONITOR mode. (Analogue modes only).
2. Long Press – Select Squelch level. (Analogue Modes only).

###### SK2 – Side Key 2 (Below PTT)

This button has been re-programmed with two functions as follows:

1. Short Press – Enter Scan Mode (Analogue Mode Only).
2. Long Press – Keyboard lock (locks everything except channel knob, volume & PTT).



## 4.2 MD785 Mobile Radio Programmable Buttons

### TK – Front (Orange button )

This button has been re-programmed for two functions as follows:

1. Short Press - Quick selection of 'direct dials' prefixed DD. These will put you straight onto TG9/S1 of the target repeater if Direct dial is enabled.
2. Long Press - Select High or Low TX Power.

**Note:** when selecting talk-group from the contacts or the direct dial list you should have selected a DMR repeater on either Slot 1 or Slot 2 which has the RX Group set to (All UK Talk Groups).

### P1 – Front Panel

This button has been re-programmed with two functions that operate the radio Squelch.

1. Short Press – Open Squelch or MONITOR mode.
2. Long Press – Present Channel #1

### P2 – Front Panel

This button has been re-programmed with two functions as follows:

1. Short Press – Adjust Squelch Level
2. Long Press – Present Channel #2

### P3 – Front Panel

This button has been re-programmed with two functions as follows:

1. Short Press – Scan
2. Long Press – Present Channel #3

### P4 – Front Panel

This button has been re-programmed with two functions as follows:

1. Short Press – Roam
2. Long Press – Present Channel #4

### P5 – Front Panel

This button has been re-programmed with two functions as follows:

1. Short Press – Zone Down
2. Long Press –

### P6 – Front Panel

This button has been re-programmed with two functions as follows:

1. Short Press – Zone Up
2. Long Press – Nuisance Temp delete – Try it on someone boring ! (reboot to reset)



### 4.3 Microphone Gain:

Internal Mic Gain was increased to 24dB on Digital and 20dB for Analogue which seems fine now. It was quiet on both DMR and Analogue repeaters before this change.

### 4.4 Tones and Audible Alerts:

2-Tone or 3-tone alerts have been configured on the radio that either go up in pitch or down in pitch depending on function. Up in pitch usually signifies opening a QSO or something positive, down in pitch signified a call coming to an end or a closure.

A long single beep usually signifies a warning of some type such as 'Repeater Wake Failure'.

There are other audible alerts to signify private calls and radio alerts all of which may be modified by the user from within the CPS software and programming lead.

## 5. CHANNELS:

This code plug contains a comprehensive list of UHF analogue and digital (DMR) repeaters as well as a full set of standard Simplex frequencies for use on both FM Analogue and DMR.

Each channel/repeater where possible includes it's actual name to make it easier to locate relative to your current position. In some cases this is slightly abbreviated so as to fit in the display.

Using the CPS software and programming lead, you can select from these channels and programme ZONES to suit your personal requirements. See below for an explanation of ZONES.

You can have up to 16 CHANNELS programmed for each ZONE and use the Channel knob on the top of the radio to select them. Your channel will be shown in the display along with the ZONE currently selected.

You can also use the UP/DOWN button to scroll through channels on the radio and this allow you to cross from one zone to the next. This is particularly useful when in the ALL UK Analogue Repeater Zones, effectively allowing you to scroll through GB3AA to GB3ZZ.

## 6. ZONES:

You can have up to 64 ZONES programmed on the PD785 each of which can contain up to 16 CHANNELS. Zones can be created by the user through the radio interface, or by using the CPS programming software and lead from a PC.

I have pre-programmed a number of Zones throughout the UK, which I will add to over time. Where possible these Zone/Channel combinations are set up according to local or D-MARC standards as applicable. A full list of pre-programmed zones in this code-plug are detailed later in this document.

The collection of Zones for a while may seem a little random and I'll rationalise and optimise these as time permits. I also welcome any suggestions around this so if you have a good idea then please drop me an email.

## 7. SIMPLEX CHANNELS:

For convenience, a number of standard UHF analogue and Digital (DMR) simplex channels have been pre-configured in the 'SIMPLEX' ZONE.

### 7.1 Analogue Simplex Channels:

The following simplex channels are available for use in the 'SIMPLEX' zone:

- 433.425 SU17
- 433.450 SU18
- 433.475 SU19
- 433.500 Call
- 433.525 SU21
- 433.550 SU22
- 433.575 SU23

### 7.2 Digital (DMR) Simplex Channels:

The following frequencies are allocated to DMR Simplex in the UK and are also available in the 'SIMPLEX' zone.

- DH1 – 438.5875
- DH2 – 438.6000
- DH3 – 438.6125 (Calling channel)
- DH4 – 438.6250
- DH5 – 438.6375
- DH6 – 438.6500

### 7.3 DMR settings for these channels are all set to:

Colour Code: 1

Talk Group: 9

Admit Criteria: Always

In Call Criteria: Always



## 8. TALK GROUPS

Talk groups are used to differentiate conversations on the same time-slot from one another. This usually determines how many repeaters or what network of inter-linked repeaters you transmit through. You could be transmitting on just your local repeater or through a network of hundreds or potentially even thousands of repeaters worldwide. It's clearly good practice to use and understand this facility wisely and only occupy large numbers of repeaters for calling. Using talk groups to QSY away from the main ones and occupy less repeaters will benefit all users and should be considered best practice.

Either use a pre-programmed channel within a zone set up for the appropriate talk-group or select a talk group from one of the following:

- **Direct Dial Talk Groups** – Press Orange button on top of Radio for shortlist
- **Contacts** – Select from the Menu and scroll to talk-group you wish to use.
- **Manual Dial** – Select from Contacts Menu option and enter talk group manually.

If using one of the above, you will need to have selected a DMR repeater on the appropriate timeslot for the talk group you want to use.

Additionally, there is an [RX Group List](#) set up to monitor ALL UK Talk Groups called '[All UK TGs](#)'. I've applied this RX Group List to some of the DMR repeaters. My intention is to include ALL DMR repeaters with this option.

Repeaters set up to use this RX Group List will be shown in the following format:

- 'GB7xx Name S1' – for time slot 1
- 'GB7xx Name S2' – for time slot 2

### 8.1 Standard DMR-MARC Talk Groups used in the UK

- TS1/TG1 Worldwide Calling
- TS1/TG2 Europe
- TS2/TG8 Regional – for IP linked repeaters and roaming
- TS1/TG9 Local (secondary) and receiver of incoming direct dial connections
- TS2/TG9 Local (primary)
- TG13 Worldwide English
- TG235 UK Wide
- TG9990 (Echo Server) to test your own transmissions

## 8.2 (PTT) talk groups - useful for QSY'ing from calling talk groups

These talk groups are useful for QSYing from main calling talk groups and therefore freeing up large groups of repeaters. Others are for more local use across smaller networks or subsets of networks.

- TG113 Worldwide English
- TG119 Worldwide All
- TG123 Worldwide English
- TG129 Worldwide All
- TG2350
- TG2351
- TG2352 Linking a subset of TG8 repeaters in SE England.
- TG2353

## 8.3 Other Talk Groups of interest in the UK

- TG901 to currently TG36 DIRECT DIAL (See Direct Dial)  
Connect to any direct dial enabled repeater on local TG9/S1
- TG862 M62 Area Roaming repeates (subset of the NE roaming set)
- TG950 South West Cluster – Operating in SW England only – Not on DMR-MARC.

For more information on talk groups visit *cc-3 dot net*

<http://www.cc-3.info/wordpress/index.php/standard-talk-groups/>

## 9. ROAMING:

When using regional talk-groups such as TG8 roaming may be allowed if it has been implemented. Roaming allows your radio will automatically select the strongest repeater within range as you move about and transmit through all of them on the network.

### 9.1 Roaming Groups:

NAME	RX	TX	CC	GROUP	SLOT	LOCATION	REGION
GB7HM - REGIONAL	439.6375	430.6375	1	8	2	WALES	NW ROAM
GB7LP - REGIONAL	439.4000	430.4000	1	8	2	LIVERPOOL	NW ROAM
GB7MB - REGIONAL	439.7000	430.7000	1	8	2	MORECAMBE	NW ROAM
GB7MR - REGIONAL	439.7375	430.7375	2	8	2	MANCHESTER	NW ROAM
GB7PN - REGIONAL	439.4250	430.4250	1	8	2	PRESTATYN	NW ROAM
GB7HS - M62 AREA	439.4250	430.4250	2	862	2	BATLEY	M62 ROAM
GB7HX - M62 AREA	439.5750	430.5750	1	862	2	HUDDERSFIELD	M62 ROAM
GB7LE - M62 AREA	439.6625	439.6625	2	862	2	LEEDS	M62 ROAM
GB7MR - M62 AREA	439.7375	430.7375	2	862	2	MANCHESTER	M62 ROAM
GB7TD - M62 AREA	439.1625	430.1625	1	862	2	HUDDERSFIELD	M62 ROAM
GB7DD - REGIONAL	439.6625	430.6625	1	8	2	DUNDEE	SCOTLAND ROAM
GB7EE - REGIONAL	439.7125	430.7125	1	8	2	EDINBURGH	SCOTLAND ROAM
GB7FW - REGIONAL	439.6625	430.6625	1	8	2	BIRMINGHAM	MID ROAM
GB7HM - REGIONAL	439.6375	430.6375	1	8	2	WALES	MID ROAM
GB7EL - REGIONAL	439.7125	430.7125	2	8	2	NELSON	NE ROAM
GB7HS - REGIONAL	439.4250	430.4250	2	8	2	BATLEY	NE ROAM
GB7HX - REGIONAL	439.5750	430.5750	1	8	2	HUDDERSFIELD	NE ROAM
GB7LN - REGIONAL	439.4000	430.4000	1	8	2	LINCOLN	NE ROAM
GB7SR - REGIONAL	439.6375	430.6375	2	8	2	SHEFFIELD	NE ROAM
GB7TD - REGIONAL	439.1625	430.1625	1	8	2	HUDDERSFIELD	NE ROAM
GB7TP - REGIONAL	439.6875	430.6875	1	8	2	KEIGHLEY	NE ROAM
GB7AK - REGIONAL	439.5250	439.5250	3	8	2	BARKING	SE ROAM
GB7AV - REGIONAL	439.4375	430.4375	3	8	2	AYLESBURY	SE ROAM
GB7BK - REGIONAL	439.4500	430.4500	4	8	2	READING	SE ROAM
GB7CL - REGIONAL	439.4125	430.4125	3	8	2	CLACTON	SE ROAM
GB7CK - REGIONAL	439.7375	430.7375	3	8	2	FOLKSTONE	SE ROAM
GB7DS - REGIONAL	439.4250	430.4250	1	8	2	NORWICH	SE ROAM
GB7EK - REGIONAL	439.4625	430.4625	3	8	2	WHITSTABLE	SE ROAM
GB7EP - REGIONAL	439.7000	430.7000	3	8	2	EPSOM	SE ROAM
GB7EX - REGIONAL	439.7125	430.7125	3	8	2	SOUTHEND-ON-SEA	SE ROAM
GB7GF - REGIONAL	439.6875	430.6875	3	8	2	GUILDFORD	SE ROAM
GB7HR - REGIONAL	439.4500	430.4500	3	8	2	HEATHROW	SE ROAM
GB7ID - REGIONAL	439.4500	430.4500	3	8	2	REDHILL	SE ROAM
GB7IK - REGIONAL	439.5375	430.5375	3	8	2	ROCHESTER	SE ROAM
GB7LO - REGIONAL	439.5125	430.5125	2	8	2	BROMLEY	SE ROAM
GB7MP - REGIONAL	430.8250	438.4250	3	8	2	SOUTHWARK	SE ROAM
GB7NS - REGIONAL	439.1625	430.1625	3	8	2	CATERHAM	SE ROAM
GB7RU - REGIONAL	439.4250	430.4250	3	8	2	READING	SE ROAM
GB7SC - REGIONAL	439.4750	430.4750	3	8	2	BOGNOR REGIS	SE ROAM
GB7SE - REGIONAL	439.4750	430.4750	3	8	2	SOUTH OCKENDON	SE ROAM
GB7WL - REGIONAL	439.4625	430.4625	3	8	2	AMERSHAM	SE ROAM
GB7AA - SW CLUSTER	439.6750	430.6750	1	950	2	BRISTOL CITY	SW CLUSTER
GB7BS - SW CLUSTER	439.1625	430.1625	3	950	2	BRISTOL	SW CLUSTER
GB7BX - SW CLUSTER	439.4375	430.4375	5	950	2	SHREWSBURY	SW CLUSTER
GB7CW - SW CLUSTER	439.4625	430.4625	1	950	2	CARDIFF	SW CLUSTER
GB7DR - SW CLUSTER	439.4250	430.4250	5	950	2	POOLE	SW CLUSTER
GB7GB - SW CLUSTER	439.4250	430.4250	1	950	2	BIRMINGHAM	SW CLUSTER
GB7JB - SW CLUSTER	439.4625	430.4625	1	950	2	WILLOUGHBY HEDGE	SW CLUSTER
GB7SD - SW CLUSTER	439.4125	430.4125	1	950	2	WEYMOUTH	SW CLUSTER
GB7TC - SW CLUSTER	439.5250	430.5250	2	950	2	SWINDON	SW CLUSTER
GB3WB - SW CLUSTER	433.3000	433.9000	1	950	2	WESTON-SUPERMARE	SW CLUSTER

## 10. SCANNING:

I have set up a number of scan groups for convenience. These can be selected from the menu under 'Scanning' and then activated from the same menu or by pressing SK2 briefly (once scan group has been selected).

- Simplex – All of the Analogue and Digital Simplex Channels
- Local Repeaters – Local (to me Analogue & digital repeaters)
- Local DMR – Local (to me) Digital repeaters on listen all TGs.
- Favourtites – My favourite channels only
- PMR446 – All analogue and digital PMR446 channels
- Temp Scan – Program this yourself manually through the radio interface. \*\*
  - \*\* Will be lost if you download the code-plug again without saving

## 11. Direct Dial Talk Groups.

Direct dial allows you to access local TG9/S1 on any repeater with direct dial facility from your DMR-MARC connected repeater. You need to originate on TS1 on your local repeater and select the appropriate talk-group from the list below.

Direct Dial talk-groups are accessible from the drop down menu of Favourite Contacts (press top orange button) or select 'Contacts' from the menu. Scroll down to the appropriate Direct Dial talk group and press the PTT. Alternatively you can select 'Manual Dial' from the Contact menu and enter the talk group you want from the list below.

**Example:** To access local TG9 on GB7AV from GB7WL:

- Select TS 1 on GB7WL
- Select TG901 from Direct dial Shortlist (Orange button), Contacts or by Manual Dial.
- Press PTT to transmit.

Once the link is established you will hear all local traffic on TG1/S1 for that given repeater. This facility usually has a 5-minute timer, which will drop out if not used.

Below is a list of direct dial talk-groups.

GB7AV - AYLESBURY	TS1 / TG901
GB7CT - TRING	TS1 / TG902
GB7EP - EPSOM	TS1 / TG903
GB7EX - SOUTHEND	TS1 / TG904
GB7GF - GUILDFORD	TS1 / TG905
GB7IK - ROCHESTER	TS1 / TG906
GB7PE - PETERBOROUGH	TS1 / TG907
GB7NS - CATERHAM	TS1 / TG908
GB7SC - BOGNOR REGIS	TS1 / TG909
GB7WL - AMERSHAM	TS1 / TG910
GB7DS - NORWICH	TS1 / TG911
GB7TP - KEIGHLEY	TS1 / TG912
GB7LP - LIVERPOOL	TS1 / TG913
GB7FW - BIRMINGHAM	TS1 / TG914
GB7MB - HEYSHAM	TS1 / TG915
GB7CK - FOLKESTONE	TS1 / TG916
GB7HX - HUDDERSFIELD	TS1 / TG917
GB7DD - DUNDEE	TS1 / TG918
GB7PN - PRESTATYN	TS1 / TG919
GB7HM - CAERGWRIE	TS1 / TG920
GB7SR - SHEFFIELD	TS1 / TG921
GB7SE - THURROCK	TS1 / TG922
GB7HS - BATLEY	TS1 / TG923
GB7LE - LEEDS	TS1 / TG924
GB7TD - HUDDERSFIELD	TS1 / TG925
GB7FU - POINTON	TS1 / TG926
9H1DMR - Nexxar (Malta)	TS1 / TG927
GB7EL - Nelson	TS1 / TG928
GB7HR - HEATHROW	TS1 / TG929
GB7BK - READING	TS1 / TG930
GB7EE – EDINBURGH	TS1 / TG931
GB7MP – SOUTHWARK	TS1 / TG932
GB7LO – BROMLEY	TS1 / TG933
IOM Repeaters GB7BR & CA	TS1 / TG934
GB7AK - BARKING	TS1 / TG935
GB7MK - IPSWICH	TS1 / TG936

## 12. CALLSIGN DATABASE – CONTACTS:

It is possible to import the call-sign database into the Hytera PD785 but with memory limited to 1000 contacts not all of them can be stored.

I've managed to find a link to 'Active' UK call-signs over the last month, which is substantially smaller and assuming you just want these, there are 600 or so which would easily fit into memory.

The problem is, even with the source file in the correct format: i.e. (MS EXCEL 2003) with all fields stored as TEXT, the CPS software will only seem to import 56 records at a time which is not much use.

I've not yet bottomed out the precise reason for this but a quick search on Google tells me I'm not the only one having this problem so my current thoughts are that the problem lies with the CPS software.

For now, I'm just putting in my the call-signs of my regular contacts manually through the CPS software so as not to clog it up with people I don't know.

This helps to manage the contacts file, which is more useful for pre-programmed talk groups or direct-dial talk groups.

I don't think I'd like to be scrolling through 1000 or even 600 call-signs on my radio.

There is however a last heard list under c-Bridge Info of [www.cc-3.net](http://www.cc-3.net) so please feel free to import a callsign list into your radio.

### 13. PRE-PROGRAMMED ZONES

I'm working to add more of these pre-programmed zones, which can be used or deleted from the code-plug as required. For now, it's set up for me being based in both Hertfordshire and Bristol.

#### ZONE 1 - Local (Herts)

1. GB3HR Harrow
2. London Roam TG8
3. GB3AU Amersham
4. GB3AV Aylesbury
5. GB3BV Hemel Hempstead
6. GB3FN Farnham
7. GB3TU Tring
8. GB7AV Aylesbury S1
9. GB7AV Aylesbury S2
10. GB7HR Heathrow 1
11. GB7HR Heathrow 2
12. GB7NS N.Surrey S1
13. GB7NS N.Surrey S2
14. GB7WL Amersham S1
15. GB7WL Amersham S2
16. 433.500 SU20/Call

#### ZONE 2 - Local (Bristol)

1. GB7AA Loc S1/TG9
2. GB7AA TG950 SWC
3. GB7BS Local S1
4. GB7BS TG950 SWC
5. GB3BS Bristol
6. GB3ZB Bristol
7. GB3UB Bath
8. GB3WB W.S.Mare
9. GB3GH Gloucester
10. GB3HC Hereford
11. GB3BU Brecon
12. GB3CW Nwtn Powys
13. GB7CW WW TG1
14. GB7CW WWEng TG13
15. GB7CW Loc S1/TG9
16. GB7CW UKW TG235

#### ZONE 3 - Simplex

1. 433.400 SU16
2. 433.425 SU17
3. 433.450 SU18
4. 433.475 SU19
5. 433.500 Call
6. 433.525 SU21
7. 433.550 SU22
8. 433.575 SU23
9. 433.600 SU24
10. 438.5875 DH1
11. 438.6000 DH2
12. 438.6125 Call
13. 438.6250 DH4
14. 438.6375 DH5
15. 438.6500 DH6
16. 438.6625 DH7

#### ZONE 4 - London Analogue

1. GB3AU Amersham
2. GB3AV Aylesbury
3. GB3AW Newbury
4. GB3BN Bracknell
5. GB3BV Hemel
6. GB3FN Farnham
7. GB3GF Guildford
8. GB3HR Harrow
9. GB3HW Romford
10. GB3LV Nth London
11. GB3LT Luton
12. GB3LW London
13. GB3NS N Surrey
14. GB3OK Bromley
15. GB3TU Tring
16. GB3VH Welwyn G

#### ZONE 5 - Aylesbury DMR

1. GB7AV Aylesbury1 – Slot 1 All TGs
2. GB7AV Aylesbury2 – Slot 2 All TGs
3. GB7AV WW TG1
4. GB7AV Europe TG2
5. GB7AV Roam TG8
6. GB7AV Loc S1/TG9
7. GB7AV WWEng TG13
8. GB7AV WWEng TG113
9. GB7AV WW TG119
10. GB7AV WEng TG123
11. GB7AV WW TG129
12. GB7AV UKW TG235
13. GB7AV TG 902(CT)
14. GB7AV TG 904(EX)
15. GB7AV TG 908(NS)
16. GB7AV TG 910(WL)

#### ZONE 6 - W. London DMR

1. GB7WL Amersham 1 – All Talk Groups
2. GB7WL Amersham 2 – All Talk Groups
3. GB7WL WW TG1
4. GB7WL Europe TG2
5. GB7WL Roam TG8
6. GB7WL Local S1/TG9
7. GB7WL ENG TG13
8. GB7WL WW TG113
9. GB7WL WW TG119
10. GB7WL WW TG123
11. GB7WL WW TG129
12. GB7WL UKW TG235
13. GB7WL TG901 AV
14. GB7WL TG902 CT
15. GB7WL TG904 EX
16. GB7WL TG908 NS



**ZONE 8 – Reading DMR**

1. GB7BK Reading 1
2. GB7BK Reading 2
3. GB7BK WW TG1
4. GB7BK Europe TG2
5. GB7BK Roam TG8
6. GB7BK Local S1 / TG9
7. GB7BK Local S1/ TG9
8. GB7BK WWEng TG13
9. GB7BK WWEng TG113
10. GB7BK WWEng TG123
11. GB7BK WW TG129
12. GB7BK UKWide TG235

**ZONE 9 - Southeast DMR - (Various London & South East DMR).**

1. London & Southeast Roaming – TG8
2. GB7AV LOC S1/TG9
3. GB7AV UKW TG235
4. GB7HR LOC S1/TG9
5. GB7HR UKW TG235
6. GB7NS LOC S1/TG9
7. GB7NS UKW TG235
8. GB7WL LOC S1/TG9
9. GB7WL UKW TG235
10. GB7EP LOC S1/TG9
11. GB7EP UKW TG235
12. GB7GF LOC S1/TG9
13. GB7GF UKW TG235
14. GB7AV Aylesbury1
15. GB7NS NSurrey1
16. GB7WL Amersham1

**ZONE 10 - Southwest DMR - (All of the SW Cluster).**

1. GB7AA Local S1
2. GB7AA TG950 SWC
3. GB7BS Local S1
4. GB7BS TG950 SWC
5. GB7CW Local S1
6. GB7CW TG950 SWC
7. GB7DR Local S1
8. GB7DR TG950 SWC
9. GB7JB Local S1
10. GB7JB TG950 SWC
11. GB7SD Local S1
12. GB7SD TG950 SWC
13. 438.6125 DMR Call

#### ZONE 11 – Wales Analogue

1. GB3AN Amlwch
2. GB3BU Brecon
3. GB3CM Carmathen
4. GB3CR Caergwrle
5. GB3CW Newton Powys
6. GB3HC Hereford
7. GB3LH Shrewsbury
8. GB3LH Llandudno
9. GB3MG Pontypridd
10. GB3MS Worcester
11. GB3RT Cymbran
12. GB3SP Pembroke
13. GB3TF Little Wenlock
14. GB3VN Ludlow
15. GB3UO Chirk
16. GB3WU Worcester

#### ZONE12 – Wales DMR

1. GB7BX Much Wenlock 1
2. GB7BX Much Wenlock 2
3. GB7CW LOC S1/TG9
4. GB7CW TG950 SWC (Roaming)
5. GB7CW UKW TG235
6. GB7GT Ludlow 1
7. GB7GT Ludlow 2
8. GB7HM Caergwrie1
9. GB7HM Caergwrie2
10. GB7PN Prestatyn1
11. GB7PN Prestatyn2

#### ZONE 13 - Midlands

1. GB7FW Birmingham S1
2. GB7FW Birmingham S2
3. GB7FW Loc S1/TG9
4. GB7FW UKWide TG 235
5. GB7GB Birmingham S1
6. GB7GB Birmingham S2
7. GB7GB Loc S1/TG9
8. GB7GB UKWide TG 235
9. GB3LT Luton
10. GB3BL Bedford
11. GB3MK Milton Keynes
12. GB3CI Corby
13. GB3NH Northampton
14. GB3CV Coventry
15. GB3LE Leicester
16. GB3ME Rugby

ZONE 14 – North Analogue

1. GB3CA Carlisle
2. GB3DV Maltby
3. GB3FC Blackpool
4. GB3HD Huddersfield
5. GB3HJ Harrogate
6. GB3LF Kendal
7. GB3LI Liverpool
8. GB3MF Macclesfield
9. GB3MR Stockport
10. GB3NT Newcastle upon Tyne
11. GB3PP Preston
12. GB3 PZ Dukinfield
13. GB3US Sheffield
14. GB3VE Dufton
15. GB3WF Ottley
16. GB3WP Hyde

ZONE 15 – North DMR1

1. GB7HS Battley S1
2. GB7HS Battley S2
3. GB7HX Huddersfield S1
4. GB7HX Huddersfield S2
5. GB7LE Leeds S1
6. GB7LE Leeds S2
7. GB7MR Manchester S1
8. GB7MR Manchester S2
9. GB7LP Liverpool S1
10. GB7LP Liverpool S2
11. GB7SN Sheffield S1
12. GB7SN Sheffield S2
13. GB7SR Sheffield S1
14. GB7SR Sheffield S2
15. GB7TD Huddersfield S1
16. GB7TD Huddersfield S2

ZONE 16 – North DMR2

1. North Region Roaming TG8
2. GB7DD Local S1
3. GB7EE Local S1
4. GB7EE Local S2
5. GB7EE UKWide TG 235
6. GB7EL Local S1
7. GB7HS Local S1
8. GB7HX Local S1
9. GB7LE Local S1
10. GB7LN Local S1
11. GB7SR Local S1
12. GB7TD Local S1
13. GB7 TP Local S1
14. GB7WI Local S1

#### ZONE 17 – Scotland

1. GB3BE Duns
2. GB3CA Carlisle
3. GB3DD Dundee
4. GB3DM Dumbarton
5. GB3ED Edinburgh
6. GB3GL Glasgow
7. GB3HK Selkirk
8. GB3KV Kilsyth
9. GB3OH Linlithgow
10. GB3PU Perth
11. GB7DD Dundee S1
12. GB7DD Dundee S2
13. GB7EE Edinburgh S1
14. GB7EE Edinburgh S2
15. GB7EE Edinburgh S1/TG9
16. GB7EE Edinburgh Roam TG8

#### ZONE 18 - PMR446 (PMR446 analogue and digital channels).

*Please be aware that MAX permitted power on this band is 0.5W. Most DMR radio do NOT transmit <1W including the Hytera PD and MD785. You will therefore be transmitting illegally if you transmit on these bands.*

1. PMR446-1
2. PMR446-2
3. PMR446-3
4. PMR446-4
5. PMR446-5
6. PMR446-6
7. PMR446-7
8. PMR446-8
9. PMR446-1 DMR
10. PMR446-2 DMR
11. PMR446-3 DMR
12. PMR446-4 DMR
13. PMR446-5 DMR
14. PMR446-6 DMR
15. PMR446-7 DMR
16. PMR446-8 DMR

New Zones added for All UK Analogue Repeaters (GB3AA-ZZ) across multiple zones.

New Zone added for all Folkestone DMR channels and UK talk groups.

New Zone added for GB7WI DMR+ repeater and it's associated zones.

New Zone added for DV4 Mini Support on 436.000 Mhz Simplex

## AppX1: Version History

Version 2.31 (initial release) PD785 only.

- Fixed CTCSS on GB3BV
- Added name to GB3BU (Brecon)
- Added GB3RT - Cymbran
- Updated Bristol Local group to include GB3BU and lose Swindon.
- Set up Wales Analogue Zone
- Set up Wales DMR

Version 2.32

- Add North Analogue Zone
- Add North DMR Zone
- Add various new DMR Northern repeaters MR, LE etc.

Version 2.60 (released) PD785 only.

- New Startup tone
- Direct Dial
  - All direct dials now accessible exclusively off of the top orange button (TK)
  - All direct dial codes now prefixed 'DD' with verbose name for repeater you're accessing.
- Added TG310 (TAC-310) world-wide point to point
- New Zones added for UK use.
- Removed RX CTCSS from GB3BS
- GB7BH Brighton 1 & 2 Added
  - Time Slot 1 Talk Groups TG1-WW, TG2-EUROPE, TG3-USA, TG9-LOCAL, TG13-WW ENG, TG235-UK WIDE
  - Time Slot 2 Talk Groups TG9990 ECHO SERVER, D-STAR LINK
- GB7BR Ramsey IOM 1 & 2 Added
  - Time Slot 1 Talk Groups None set at the moment
  - Time Slot 2 Talk Groups TG2 available
- GB7CW Bridgend - Now joins SWC & comes of D-MARC
- GB7EE Edinburgh 1 & 2 Added
  - Time Slot 1 Talk Groups TG1 & 13 (WW),2 (Europe),235 (UK Wide),9 (Local)
  - Time Slot 2 TalGB7k Groups TG8 (regional), 9 Local
- GB7EL Nelson 1 & 2 Added
  - North Roaming Group 8 on TS/2
- GB7LO Bromley 1 & 2 Added
  - London Roaming Group 8 on TS/2
- North Zone updates:
  - Zone North DMR1 replaces North DMR
  - Zone North DMR2 added
  - New roaming group in North created (TG8) (GB7DD, GB7EE, GB7EL, GB7HS, GB7HX, GB7LE, GB7LN, GB7SR, GB7TD, GB7TP, GB7WI)

Version 3.00 (released PD785 & MD785) new for version 7.00 firmware.

- Codeplug has been updated to run with version 7.00 Firmware
- Codeplug is now shared with both PD785 and MD785 (Portable & Mobile) radio models though file used will be different for each type of radio.
- Button layout is different for MD785 radio.
- New Zone for Reading (GB7BK) added and associated data for GB7BK.
- Minor Additions to database

#### Version 3.01

- Database updates – GB7LO Bromley (Kent) now live
  - Channels for TG1, 2,8,9,13,113,123,119,129,235

#### Version 3.02 (released PD785 and MD785)

- Nuisance Temporary Delete function added to RED Zone Key.
- Minor Database updates
- Front panel keypad channel select function added to PD785

#### Version 3.021 (MD785 only - Master Database with PD785 code plug until public release).

- Added GB3HR (Reverse) channel to database and local (herts) zone.

#### Version 3.022 (MD785 only - Master Database with PD785 code plug until public release).

- Button reassignments for Accessory Mic

#### Version 3.023 (MD785 only - Master Database with PD785 code plug until public release).

- Further enhancements for Accessory Mic

#### Version 3.03 (minor update not released yet)

- Fixed a bug where low battery causes continuous warning tone on PD785. Now 3-Tone-Down selected and beeps every 60 seconds.

#### Version 3.04 (Database updates not released)

- Added GB3HR (Reverse) channel to database and local (herts) zone.
- Added GB7EE 1 & 2, plus Local TG9 and Roam TG8 to Scotland Zone

#### Version 3.05 (Zone Updates)

- Added Chris & John's UK All Analogue Repeaters zones.
- Regression updates for v3.03 & 3.04 as zones added out of sync.

#### Version 3.06 (released PD785 & MD785)

- Added additional channels for GB7CK Folkestone
- Created Folkestone Zone
- Database Sync to MD785 codeplug for release
- Accessory Mic enhancements ported over to MD785
- Switching over zone added PD & MD 785

#### Version 3.07 (minor Database update)

- Updated GB7WI (Winterton DMR+ repeater)
  - TG1,2,3,9,13,113,119,123,129,235
  - Note New TG3 (USA)
  - TS2 used only with TG9 for local or reflector use
  - Updated All UK TGs RX list

#### Version 3.08 (multiple Database updates)

- GB7AK (Barking) added
  - TG1,2,8,9,13,113,119,123,129,235
  - Added to London Regional Roaming Cluster
- GB7ED (Exeter) added to South West Cluster (TG9 and TG950)
- GB7TC (Swindon) added to South West Cluster (TG9 and TG950)
- All GB3 Analogue repeaters missing name have been updated.
- Significant update to user manual. Latest information on direct dial and new talk groups has been added. The code plug will follow these updates.
- Updates to Southwest Cluster
- GB7ID moves to DMR+
- Updates to Roaming Zones

Version 3.09 (multiple Database updates)

- UK Roaming Zone Added
  - South East
  - South West Cluster
  - Midlands
  - North East
  - M62 Area
  - North West
  - Scotland
- Corrections and updates to manual & Talk Groups.

Version 3.10 (minor Database updates)

- New Roaming TGs added
  - TG2350, 2351, 2352, 2353 added (user activated)

Version 3.11 (minor Database updates)

- Updated Direct Dial Contacts as of 1<sup>st</sup> Nov 2015
- Addition of DV4 Mini Channels on 436.000Mhz (Slot 1, TG9)
- Addition of DV4 Mini Zone
- Addition of DMR+ Private contacts to support DV4 Mini
  - TG4400, 4401, 4402, 4403 (UK)
  - TG5000 Status (for DV4 Mini) talks back current TG.