

DAB+ FM DIGITAL RADIO



The Gold Technical Support Line: 1902 215 259
Personal Product Support
(Charges will apply at \$2.95 per minute)

BR10DAB

www.bushaustralia.com.au

Introduction

Thank you for buying this Bush product, which is designed to give you many years of trouble-free service.

You may already be familiar with using a similar unit, but please take time to read these instructions. They are designed to familiarise you with the unit's many features and to ensure you get the very best from your purchase.

Safety is important

Your safety and the safety of others is important.

Please therefore, ensure you read the "Safety Instructions" **before** you operate this unit.

Warranty

In the unlikely event that your product fails to work normally, please call the below free phone number to discuss the problem with one of our qualified service engineers.

Australia.

Bush Warranty: 1800 509 394

New Zealand

Bush Warranty: 0800 450 259

Safety Instructions

Ensure that you read all of the safety instructions before using this unit.

Safety Considerations

- Position the power cable and other connected cables so that they are not likely to be walked on, pinched or where items can be placed on or against them.
- Do not use the unit in humid or damp conditions.
- Do not allow the unit to get wet.
- Never allow children to insert foreign objects into holes or slots on the unit.
- The ventilation should not be impeded by covering the openings with items such as newspapers, tablecloths, curtains, etc. This may cause overheating.
- No naked flame sources, such as lit candles, should be placed on the unit.
- Do not expose the unit to dripping or splashing, and no objects filled with liquids, such as vases, should be placed on the apparatus.
- Do not place the unit in closed bookcases or racks without proper ventilation.

Cleaning

- Disconnect the unit from the mains supply before cleaning.
- Do not use any liquids or aerosol cleaners, as this may damage the unit. Use a soft, dust free cloth.

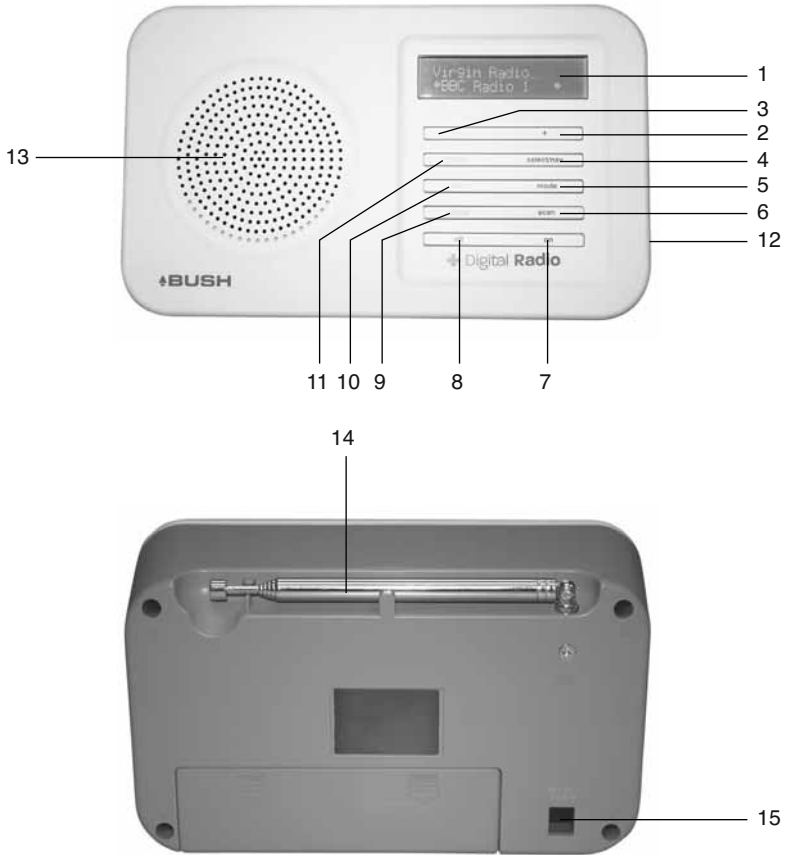
Servicing

- There are no user serviceable parts in the unit. When servicing, refer to qualified service personnel.
- Consult your dealer if you are ever in doubt about the installation / operation / safety of the product.

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Your DAB Radio



- | | | | |
|----|--------------------|-----|---------------|
| 1. | LCD Display | 9. | MENU Button |
| 2. | + Button | 10. | INFO Button |
| 3. | - Button | 11. | PRESET Button |
| 4. | SELECT/NAV. Button | 12. | PHONE Button |
| 5. | MODE Button | 13. | LOUD SPEAKER |
| 6. | SCAN Button | 14. | ROD ANTENNA |
| 7. | ON Button | 15. | DC Jack |
| 8. | OFF Button | | |

What is DAB

DAB was developed in **Europe** by a consortium of broadcasters and manufacturers. **DAB** uses digital compression techniques to transform the source material, i.e. music and speech, into better quality audio.

Interference free reception

Analogue systems suffer from an effect called “multipath distortion”. This is caused because waves do not behave in an orderly fashion, but bounce and reflect off buildings etc. DAB sees this as an advantage and uses the direct and reflected signals to actually reinforce the end result, allowing for better service more of the time.

No need to re-tune

A single DAB frequency can be used to cover the whole of the **Australia**, so solving many of the problems experienced with the earlier analogue system. **DAB** scan automatically tune-in all of the available stations in your area.

Scrolling text

Broadcasters can transmit text to your radio. This way you can read the name of the DJ, artist, song title or any other information they choose.

DAB+ coverage

Check you local coverage at www.digitalradioplus.com.au

Getting Started

Carefully remove your **DAB Receiver** from the box. You may wish to store the packaging for future use.

In the Box

Inside the box you will find:

- DAB Radio (Main Unit)
- Power Adapter
- User Guide

Positioning your DAB Radio

Place your **DAB Receiver** on a flat / stable surface that is not subject to vibrations.

Avoid the following locations:

- Where it is exposed to direct sunlight.
- Where it is close to heat radiating sources.
- Where the humidity is high and ventilation is poor.
- Where it is dusty.

Adjusting the Rod Antenna

The aerial should be extended to ensure good reception in both DAB and FM radio modes. It may be necessary to alter the position of the **DAB RADIO** and /or aerial to achieve the best signal.

Using Headphones

You will require headphones (not include) fitted with a 3.5 mm diameter stereo plug. The Headphone socket is located on the top of this unit. Headphones are not supplied with this **DAB Receiver**.

Operation the Unit

Insert the power adapter output jack to connect the marked on the unit. After this connection is made, insert the power adapter into the wall outlet. Your **DAB Receiver** requires a mains supply of 240V AC ~ 50Hz. Press the ON button to power on unit and press the OFF button to off the power.

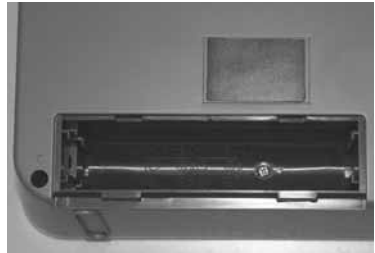
Adjusting the Volume

- Press the **-/+** buttons to increase/ decrease the volume sound.
- If navigating within a list first push the **SELECT/NAV.** Button to exit and then use the volume button as usual.

Battery Operation

Before installing batteries (not included), ensure that the **DAB Receiver** is disconnected from the mains supply.

Remove the battery compartment cover on the back of the unit by carefully pushing the two lugs down. The battery cover can then be lifted away.



Fit 4 x 1 .5V C-size batteries (not included), referring to the polarity markings inside the battery compartment. Never mix old and new batteries. Finally, replace the cover.

For battery operation, switch off the mains supply and remove the cable from the power socket. Battery operation will be selected automatically.

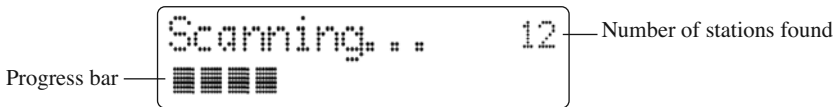
CAUTION: Danger of explosion if batteries are incorrectly replaced. Replace only with the same equivalent type. If you are not going to use the unit for an extended period, please remove the batteries to avoid damage.

Using DAB Radio

Switching On for the first time

Insert the power adapter into the unit. Now insert the power adapter into the wall outlet. Press the **ON** button to turn on your **DAB Receiver** for the first time **DAB** mode is selected automatically. The **DISPLAY** will illuminate and “**Welcome to Radio**” will be displayed.

The following screen will be displayed A bar graph indicates the progress of the search - the number of stations found increases as the scan progresses.



When the scan is complete, the **DAB Receiver** will then select the first available station - stations are listed in numerical then alphabetic order. The station list is retained in memory so the next time you switch the **DAB Receiver** on, the station search does not take place. If there are no stations found, check that adequate **DAB** coverage exists in your area.

Changing DAB Stations

If the **DAB Receiver** is in **FM** mode, press the **MODE** button to select **DAB** mode.

- Press the **SELECT/NAV** button, the station name will start to flash and then use the **-/+** buttons to move through the list.
- Push the **SELECT/NAV** Button to confirm selection & start **DAB** broadcast (or timeout after 5 sec).
- Browsing **DAB**, to select a service push the **SELECT/NAV** button to enable navigation and then use the **-/+** buttons to browse the service list, and press **SELECT/NAV** button to select the service displayed.
- When a station has been selected the display will show the information of the radio station.

Using DAB Radio -Continued

Scanning for DAB Stations

Due to the nature of **DAB**, additional stations and services regularly become available. If you wish to see if there have been any new **DAB** stations introduced in your area you can initiate a search.

Press the **SCAN** button to activate a local search for stations. This will take approximately 15 seconds. A wider search can be initiated by pressing and holding down the **SCAN** button for approximately two seconds. In this case a full scan is performed which will take approximately 60 seconds.

Storing DAB Presets

You can preset up to 10 DAB stations for easy access as follows:

- Tune to the station you wish to preset (see Changing DAB Stations).
- Press the **PRESET** button once, the preset station 1 will show on **DISPLAY**.
- Press the **-/+** buttons to select the store position.
- Press and hold the **SELECT/NAV** button to save the current station into the specified preset.

Selecting a Preset Station

You can select up to 10 DAB stations for easy access as follows:

- Press the **PRESET** button once, the preset station 1 will show on **DISPLAY**.
- Press the **-/+** buttons to select the store position.
- Press the **SELECT/NAV** button to confirm.

*If you have not already stored a DAB station in one of the presets [Not set] will be displayed. The **DISPLAY** will revert to the previously selected station after a few seconds.*

Reset the DAB Stations

You can delete all of the preset stations and return the **DAB Receiver** to its factory settings as follows :

- Press and hold the **MENU** button
- The **DISPLAY** will show (Press "**INFO**" to confirm reset)
- Press the **INFO** button, the **DISPLAY** will show " **Welcome to Digital Radio** " before performing a new scan for stations. The radio will be returned to its factory condition.

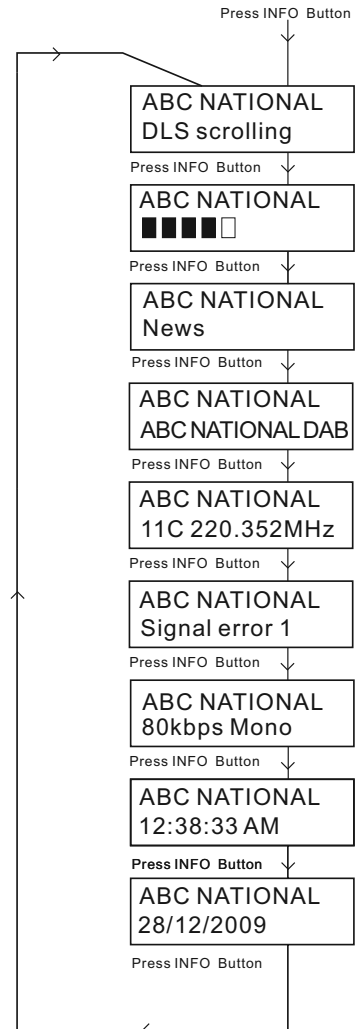
If you do not wish to reset the radio, wait a few seconds without pressing any buttons and the radio will revert to its previous operating condition.

Using DAB Radio -Continued

Changing the DAB Station Information

It is possible to change the information that is displayed on the second line of the **DISPLAY** when listening to a **DAB** station. There are seven types of information available as listed below with examples to the right. To change the information displayed press the **INFO** button repeatedly.

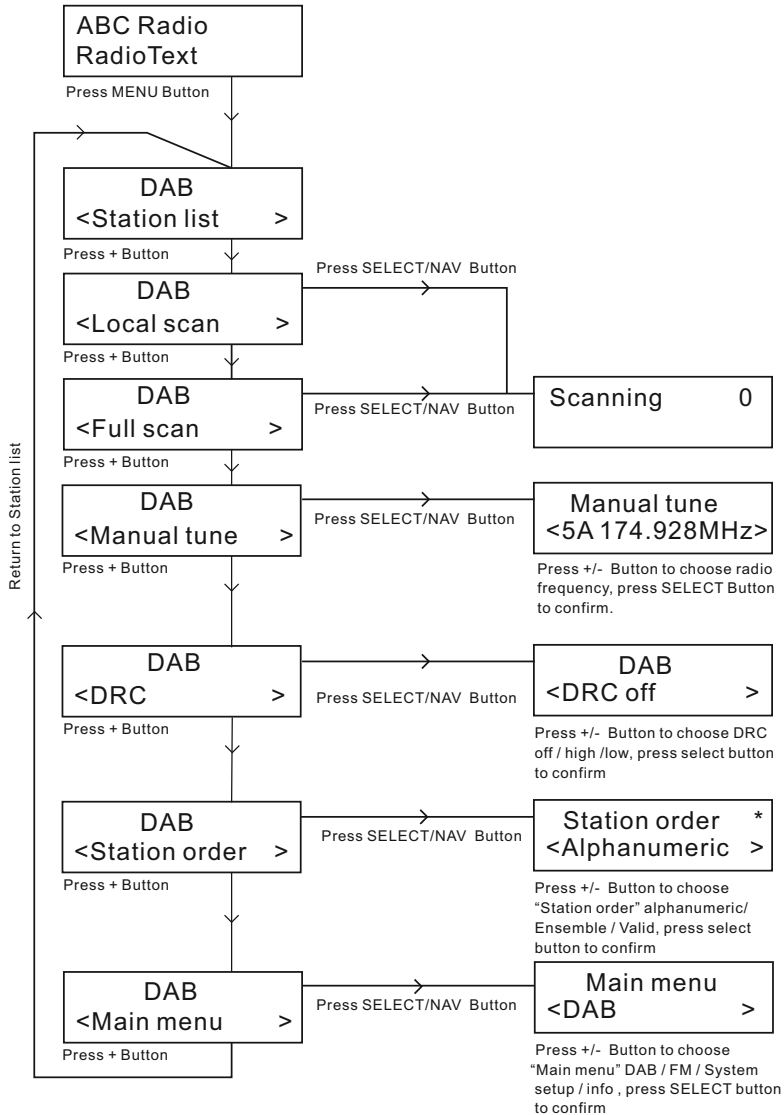
- **Dynamic Label Segment (DLS)** = This is scrolling text information supplied by the **DAB** station. It may comprise information on music titles or details of the programme and is provided by the broadcaster.
- **Signal Bar** = Show the transmission signal level.
- **Program Type (PTY)** = This is a description of the type of programme provided by the DAB station and is provided by the broadcaster.
- **Multiplex Name** This will show the multiplex text that is broadcasting the programme you are listening
- **Time and Date** = This displays the current time and date and is provided by the broadcaster.
- **Channel and Frequency** = This displays the channel number and the transmission frequency.
- **Signal Information** = This shows the digital bit-rate and the signal mode.
- **Signal Error Rate** = If the transmission signal contains errors the system can apply correction. The amount of signal correction can be displayed as a numerical value between 0 and 99. As the value increases, you will hear the signal degrade. To improve reception, try adjusting the position of the antenna. Please note a signal error rate of 30 or more will make the station un-listenable.



Using DAB Radio -Continued

Using the MENU Control (DAB mode)

The **MENU** control allows you to change some of the system options on your **DAB Receiver**. These options are arranged in a menu structure as shown below.



Using DAB Radio -Continued

The MENU Comment (DAB mode)

Pressing the **MENU** button will enter the menu control. Press the **-/+** buttons to scroll, options are described below.

Local Scan

- Press the **MENU** button to access the menu control.
- Press either the **-/+** buttons until “**Local scan**” is displayed.
- Press the **SELECT/NAV** button to activate a local search for stations.

Full Scan

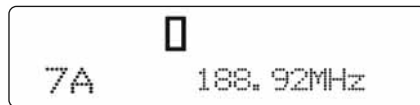
- Press the **MENU** button to access the menu control.
- Press either the **-/+** buttons until “**Full scan**” is displayed.
- Press the **SELECT/NAV** button to activate a full scan search for stations.

Manual Tune

It is possible to manually tune to a specific channel/frequency and add this to the station list. This function can be used to obtain the optimum reception for a specific Channel/frequency, taking into account the position of the aerial.

- Press the **MENU** button to access the menu control.
- Press either the **-/+** buttons until “**Manual tune**” is displayed.
- Press the **SELECT/NAV** button to access “**Manual tune**”.
- Use either the **-/+** buttons to select the desired channel/frequency.
- Press **SELECT/NAV** a rectangle will be displayed on first line of the **DISPLAY**.

The position of this rectangle indicates the signal strength (the further towards the right, the greater the signal strength).



- Adjust the position of the antenna to obtain the optimum signal strength.
- Press the **SELECT/NAV** to confirm.

Using DAB Radio -Continued

Dynamic Range Control (DRC)

DRC adds or removes a degree of compression to compensate for the differences in the dynamic range between radio stations. For example, a station broadcasting popular music may have a high level of compression applied since the emphasis is on a constant high listening level. Where as a station broadcasting classical music will have little or no compression as the listener requires all of the highs and lows in the music to define the detail.

There are three levels of compression:

- **DRC** off = No compression applied
- **DRC** high = Maximum compression applied (this is the default)
- **DRC** low = Low compression applied

The best way to determine which of these settings suits you best is to experiment with them on a variety of stations.

- Press the **MENU** button to access the menu control.
- Press either the **-/+** buttons until “**DRC**” is displayed.
- Press the **SELECT/NAV** button to access “**DRC value**”.

Press the **-/+** buttons to select between the three **DRC** values. The available options appear on line 2 of the **DISPLAY**. When the required **DRC** value is displayed press **SELECT/NAV** button to confirm.

- You should be able to hear the difference in compression immediately.

Station Order

This function enables you to define how the stations are arranged when scrolling the stations list.

- Press the **MENU** button to access the menu control
- Press either the **-/+** buttons until “**Station order**” is displayed.
- Press the **SELECT/NAV** button to access “**Station order**”.
- Use either the **-/+** buttons to display the desired option. Press **SELECT** button to confirm.

There are three options available as described below.

- **Alphanumeric** = The stations are arranged in numerical then alphabetical order.
- **Ensemble** = Lists groups of stations that are broadcast together on the same ensemble.
- **Valid** = Lists valid stations first, alphanumerically, then off-air stations.

Using DAB Radio -Continued

Main menu

To choose **DAB** mode / **FM** mode / **System setup** / **Info**

- Press the **MENU** button to access the menu control.
- Press either the **-/+** buttons until “**Main menu**” is displayed.
- Press the **SELECT/NAV** button to access “**Main menu**”.
- Use either the **-/+** buttons to display the desired option. Press **SELECT/NAV** button to confirm.

There are four options available as described below.

- **DAB** = Press **SELECT/NAV** button go back to DAB mode.
- **FM** = Press **SELECT/NAV** button go back to FM mode.
- **System setup** = Manual time & date setting (see How to manual set time & date).
- **Info** = Press **SELECT/NAV** button two times to show software version.

How to set time & date

Clock setting:

- Press the **MENU** button to access the menu control
- Press either the **-/+** buttons until “**Main menu**” is displayed.
- Press the **SELECT/NAV** button to access “**Main menu**”.
- Use either the **-/+** buttons to display “**System setup**”. Press **SELECT/NAV** button to enter.
- Use either the **-/+** buttons to select “**Set clock**”. Press **SELECT/NAV** button to enter the setting.
- Use either the **-/+** buttons to select the correct time. Press **SELECT/NAV** button to confirm and the time will blink.
- Repeat the last step to finish clock setting.

Using DAB Radio -Continued

Date setting:

- Press the **MENU** button to access the menu control.
- Press either the **-/+** buttons until “**Main menu**” is displayed.
- Press the **SELECT/NAV** button to access “**Main menu**”.
- Use either the **-/+** buttons to display “**System setup**”. Press **SELECT/NAV** button to enter.
- Use either the **-/+** buttons to select “**Set date**”. Press **SELECT/NAV** button to enter the setting.
- Use either the **-/+** buttons to select the date. Press **SELECT/NAV** button to confirm and the date will blink.
- Repeat the last step to finish date setting.

Using FM Radio

Using the FM Radio

If the **DAB Receiver** is in **DAB** mode, press the **MODE** button to select **FM** mode. You may hear background noise as no station has been tuned in. The **DISPLAY** will show the frequency.

NOTE: If the Radio is switched off in FM mode it will always resume in FM mode in last selected station, when switched back on. If RDS information is available, the display will then show the radio station name.

Automatic Tuning of FM mode

- Press the **SCAN** button to automatically search for the next available station.
- If the reception is poor, use the Manual Tuning (see the Manual Tuning of FM) to fine-tune the station. If the reception does not improve, try altering the position/length of the aerial. If the reception is still poor, scan again to determine whether a stronger signal exists for the desired frequency.
- When you have tuned into the desired frequency/station, you can save it in one of the ten preset locations.

NOTE: When you scan through conventional FM frequencies, the stations are detected based upon the intensity of the signal. Automatic FM scans may detect very noisy or distorted stations-it may be necessary to re-scan, adjust the aerial/radio position or fine-tune the signal to achieve the best results.

Manual Tuning of FM mode

- Press the **SELECT/NAV** button once, the desired frequency blink on the **DISPLAY** and press the **-/+** buttons to manually scan through the frequency band.
- If the reception does not improve, try altering the position/length of the aerial. If the reception is still poor, scan again to determine whether a stronger signal exists for the desired frequency.
- When you have tuned into the desired frequency/station, you can save it in one of the ten preset locations, see below.

Using FM Radio -Continued

Storing FM Presets

You can preset up to 10 **FM** stations for easy access as follows:

- Tune to the station you wish to preset (see Using the **FM** Radio).
- Press the **PRESET** button once, the preset station 1 will show on **DISPLAY**.
- Press the **-/+** buttons to select the store position.
- Press and hold the **SELECT/NAV** button to save the current station into the specified preset.

Selecting a Preset Station

You can select to 10 **FM** stations for easy access as follows:

- Press the **PRESET** button once, the preset station 1 will show on **DISPLAY**.
- Press the **-/+** buttons to select the store position.
- Press the **SELECT/NAV** button to confirm.

If you have not already stored a FM station in one of the presets [Not set] will be displayed. The DISPLAY will revert to the previously selected station after a few second.

Reset the FM Stations

You can delete all of the preset stations and return the radio to its factory settings as follows:

- Press and hold the **MENU** button.
- The **DISPLAY** will show (Press “**INFO**” to confirm reset).
- Press the **INFO** button, the **DISPLAY** will show “**Welcome to Digital Radio**” before performing a new scan for stations. The radio will be returned to its factory condition.

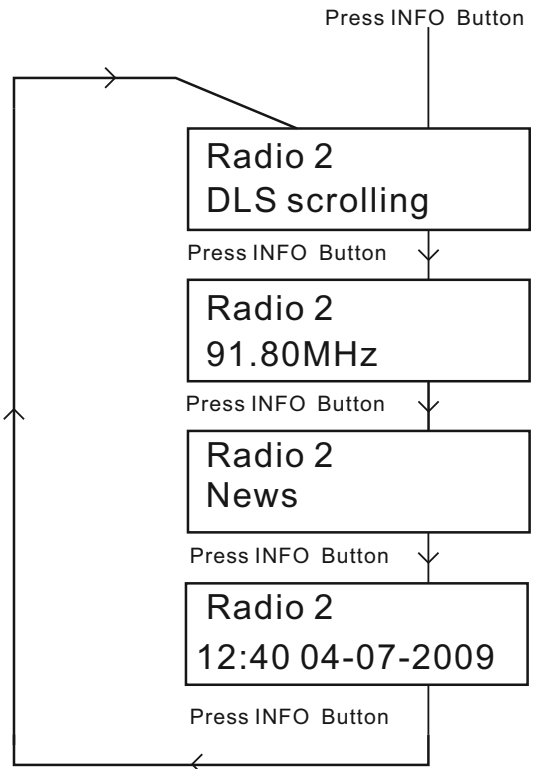
If you do not wish to reset the radio, wait a few seconds without pressing any button and the radio will revert to its previous operating condition.

Using FM Radio -Continued

Changing the FM Station Information

It is possible to change the information that is displayed on the second line of the **DISPLAY** when listening to an **FM** station (**RDS mode**). There are four types of information available as listed below with examples to the right. To change the information displayed press the **INFO** button repeatedly.

- **Radio text =** This is scrolling text information supplied by the **FM** station. It may comprise information on music titles or details of the programme and is provided by the broadcaster..
- **Radio name =** This is information of radio name / frequency supplied by the **FM** station.
- **Program Type (PTY) =** This is a description of the type of programme provided by the FM station and is provided by the broadcaster.
- **Time and Date =** This displays the time and date and is provided by the broadcaster so will be accurate.

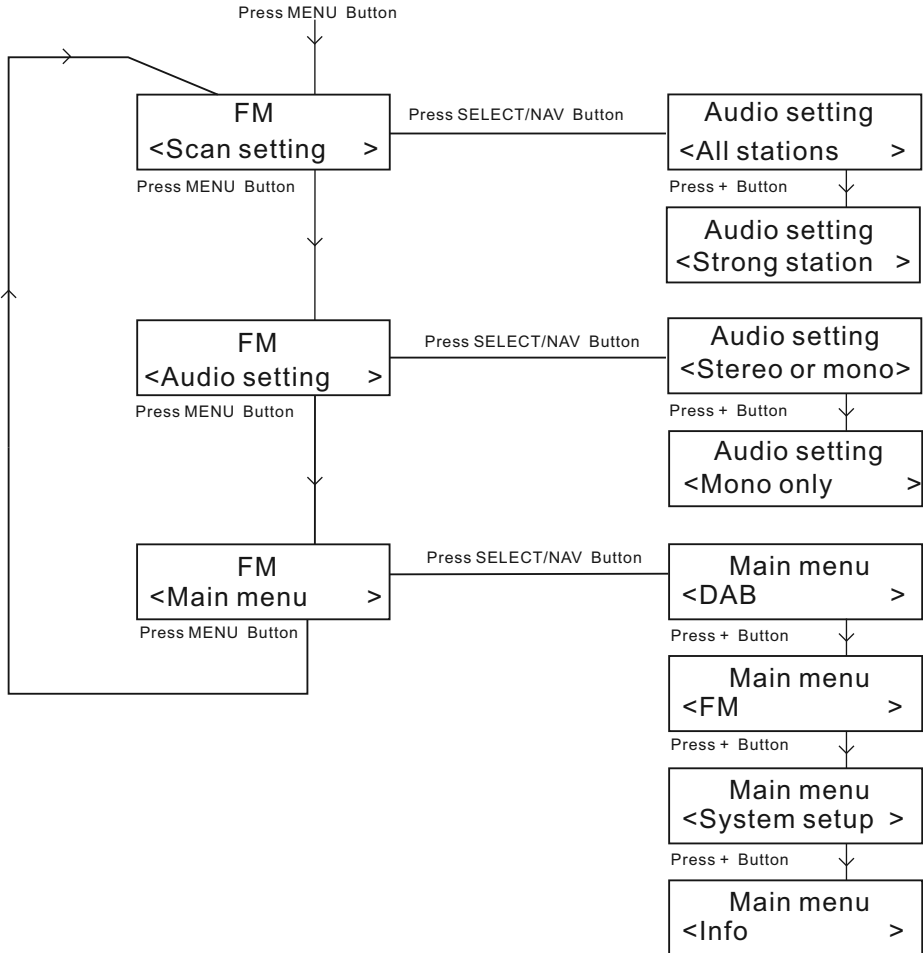


Please note: This information is dependent on the broadcaster and may not always be available. If you receive no information it is not a fault with your radio!

Using FM Radio -Continued

Using the MENU Control (FM mode)

The **MENU** control allows you to change some of the system options on your radio. These options are arranged in a menu structure as shown below.



Trouble Shooting / Technical Specification

Trouble Shooting

If a fault occurs, first check the points listed below before taking the set for repair.

If you are unable to remedy a problem by following these hints, consult you dealer or service center.

WARNING: Under no circumstances should you try to repair the set yourself, as this would invalidate the guarantee.

PROBLEM	POSSIBLE	REMEDY
General no sound	Volume not adjusted. Headphones are connected. Main lead is not correctly connected.	Adjust the Volume. Disconnect the headphones. Connect the mains lead properly.
The unit does react to operation of any button	Electrostatic discharge.	Turn off the unit, disconnect the mains plug, reconnect after a few seconds.
Radio poor reception	Weak radio aerial signal. Interference caused by the vicinity of electrical equipment like TVs, video recorders, computer, thermostats, fluorescent lamps (TL) engines etc.	Aim the aerial for best reception: Straighten up the wire antenna. Keep the unit away from electrical equipment.

Technical Specification

Power requirement	AC Adapter AC Input 240 V 50Hz DC Output 7.5V 800 mA
THD	1.3 %
Max Power Output	1.2W
10% THD Power Output	1W
DAB section	Band III, 174 MHz to 240 MHz
FM section	87.5 MHz to 108 MHz

Warranty

Please keep your receipt as proof of purchase. This product is warranted for any defect in materials or workmanship for one year after the original date of purchase. This product is for normal domestic and office use only. This warranty does not cover damage from misuse or neglect, accidental damage, vermin infestation, excessive voltages such as lightning or power surges or any alternation that affects the performance or reliability of the product.

In the unlikely event that your product fails to work normally, please contact the **Bush Warranty on 1800 509 394 (Australia) or 0800 450 259 (New Zealand)** and have your receipt of purchase on hand.

This warranty is subject to the following provisions:

- It is only valid within boundaries of the country of purchase;
- The product must be correctly assembled and operated in accordance with the instructions contained in the manual;
- This product must be used solely for domestic purposes;
- The warranty does not cover accidental damage;
- The warranty will be rendered invalid if the product is resold or has been damaged by inexpert repair;
- The manufacturer disclaims any liability for incidental or consequential damaged.

This warranty is in addition to, and does not diminish, your statutory or legal rights.

PO BOX 6287
Silverwater NSW 1811

Bush Warranty: 1800 509 394 Australia
Bush Warranty: 0800 450 259 New Zealand

www.bushaustralia.com.au

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