

PREPARATION | 01

SAFETY PRECAUTIONS

To prevent injury and/or damage, take the following precautions;

1. Keep the unit away from liquids and areas with steam or high humidity.
2. Keep the unit turned off while replacing batteries.
3. Do not reverse battery polarity.
4. Immediately turn off the power and consult with local dealer when the unit becomes extremely hot.
5. Remove batteries from the unit when not in use for a long period of time.
6. Do not apply shock or drop the unit.
7. Wipe off the unit with soft and dry cloth to clean.
8. Never dismantle, repair, or re-assemble the unit. This may cause fatal damage to the unit, and it results warranty avoidance.

IMPORTANT – DAB Recording

The DR301 includes a feature for recording DAB radio transmissions. This is intended so that users can time-shift or listen again to programs they recorded.

Material recorded should not be copied or distributed in any form as this could constitute music piracy.

WHAT IS DAB?

DAB is the latest digital technology which gives you crystal clear sound, and easy tuning. You don't need to search for channels across a waveband: the autoscanning function creates a list of all the radio channels in your location from which you can choose your favourites.

DAB has extra stations not available on other wavebands, and displays scrolling text which may give news, contact details or song lyrics and titles. With DAB, Services are bundled into groups, called Ensembles or Multiplexes. Some Radio stations may have additional secondary services which appear for special programmes or events - for example sports programs.

Preparation

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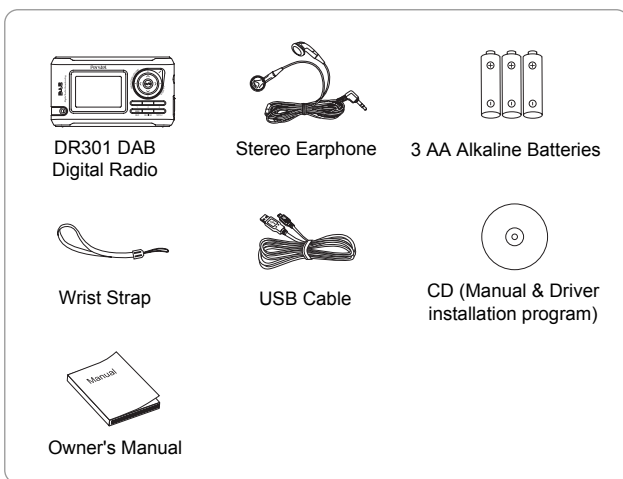
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Operation Guide

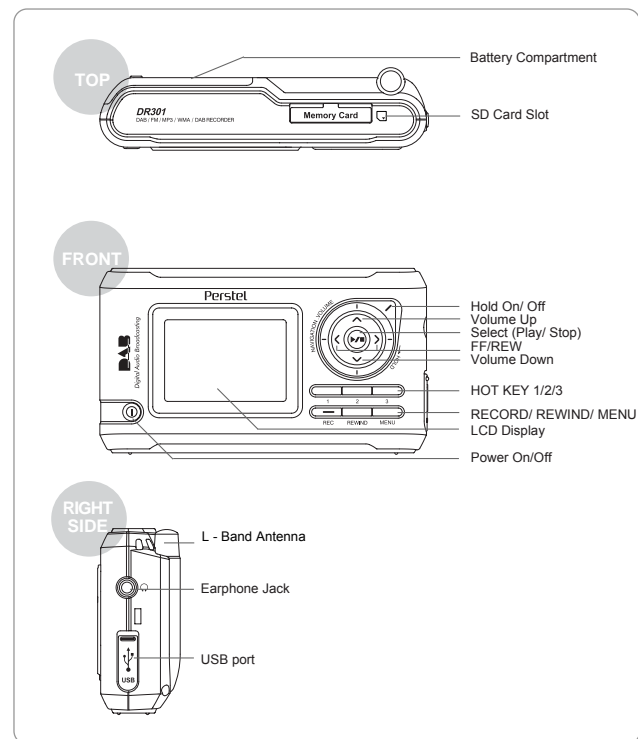
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Package Contents

- DR301 DAB Digital Radio
- Stereo Earphone
- 3 AA Alkaline Batteries
- Wrist Strap
- USB Cable
- CD (Owner's Manual & Driver installation program)
- Owner's Manual

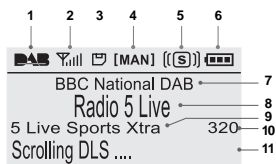


Controls Diagram



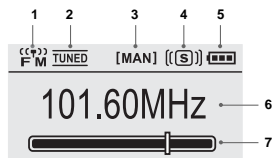
LCD Display

<DAB Receiver Display>



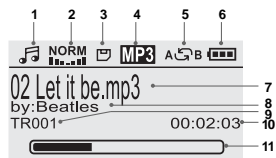
1. Mode Symbol (DAB)
2. RSSI (Receiving Signal Strength Indicator)
3. SD
4. Tune Type
5. Stereo/ Mono/ Data
6. Battery Balance
7. Ensemble Label
8. Service Label
9. Program Type
10. Data Rate (kbps)
11. DLS(Dynamic Label Segment)

<FM Radio Display>



1. Mode Symbol (FM Radio)
2. Tuned
3. Tune Type
4. Stereo/Mono
5. Battery Balance
6. Frequency Tuned
7. Frequency Location

<Music Player Display>



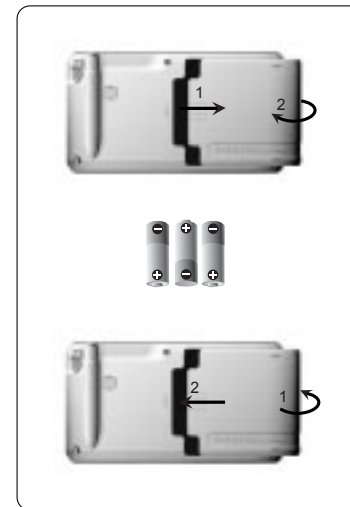
1. Mode Symbol (Music Player)
2. Equalizer
3. SD
4. File Format
5. Play Mode (Repeat Type)
6. Battery Balance
7. File Name
8. Artist Name
9. Track Number
10. Play Time
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Preparation to use

1) Battery Insertion and Replacement

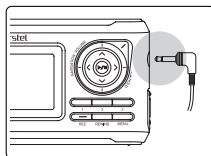
Turn the power off before battery replacement.

- Open the battery cover. Pull the ribbon to release old batteries, and insert three (3) AA alkaline batteries in to the compartment following the polarity indication.
- Place the battery cover on the original position and slide it to the left until it clicks.
- ▶ For safety purposes, remove batteries from the unit when not in use for a long period of time.



2) Plug-in earphone

Before use, gently plug the earphone into the earphone jack located at the right side of the unit. Use supplied earphone or one designed for portable stereo music systems for best match to the unit.

**3) Memory card**

To use the music player and recording features of the DR301, you need to use a Secure Digital (SD) flash memory card. The following types are supported:

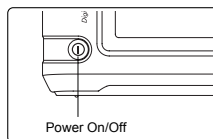
Manufacturers: San Disk/ Kingston
Memory size 16MB to 1GB

To insert the card, Hold it with the label facing the front of the DR301. Push it all the way into the card slot until a click is heard, and then release. It should be level with the edge of the slot.

To remove the card, Press the card in and then release it. It will come out far enough to remove completely.

4) Power On/Off

- 1) To turn on the unit, push Power On/Off button for more than one second. To turn off the unit, push Power On/Off button for more than one second again.
- 2) DR301 saves last mode, station and settings when powered off. When DR301 is powered on again it recalls last saved mode, station and settings and resumes operation.

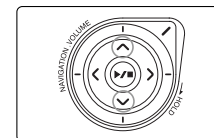
**5) Antenna Setting**

DR301 has two antenna systems for Band-III and L-Band.

- 1) When DR301 works on Band-III service, stereo earphones are working as Band-III antenna. Do not fold or twist earphone wire to avoid reception problem.
- 2) When DR301 works on L-Band service, pull out the L-Band antenna and keep it stretched out.

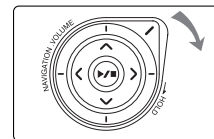
6) Volume Control

To adjust volume to a desired level press volume key upward or downward. When the volume key is pressed and held the volume level will gradually be raised or lowered. DR301 has 20 steps of digital volume control. To avoid hearing problem please do not keep the volume level too high.

**7) Button Hold**

While you enjoy services it is recommended to lock all buttons to avoid unwanted service interruption from accidental button work.

- 1) To lock/ hold buttons slide HOLD key clockwise. All keys and buttons are locked, and HOLD icon appears on LCD.
- 2) To unlock/ release buttons slide HOLD key counter-clockwise. All keys and buttons are active, and HOLD icon disappears.



DR301 is a multi function DAB radio that has FM radio, music player and recording functions. This chapter gives information on how to operate DAB functions and how to customize various settings in DAB mode. There are 3 modes of operation, DAB, FM and Music play mode. To change the operation mode, press the MENU button, and use the (Δ), and (▽) keys to select the mode required. To navigate to the other menu option pages, use the (◀) and (▶) buttons.

DAB Receiver

1) Service Tuning and Searching

DAB signals transmitted through radio frequency are called "ensembles" which consists of several "services" or radio stations. Some services may be available at certain times only. Please consult the programme guides from the broadcasters for more details.

The DR301 has two DAB tuning modes: Manual Tune and Preset Tune.

In manual tune mode, you can manually find frequency channels with DAB signals and you can select any services which are transmitted. You can add any of your favourite services to a list (called the preset list) which allows rapid tuning in Preset mode (see below). In areas with many DAB services this lets you make your own personal list of favourite channels from the many services which are available. If you are moving from one region to another you can manually look for new services without changing your preset list.

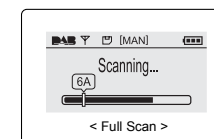
The preset list can hold a maximum of 100 entries.

In Preset tune mode the DR301 can tune quickly between the services in the preset list.

This may be all the services in your area, or the ones you have manually selected as your favourites. You can add and remove services from the list.

2) Full Scan

The DR301 can scan the complete DAB bands and make a preset list of all services or radio stations in your locality. To do this, place the set in a good reception location, (near a window for example), and fully extend the headphone lead and the L-Band antenna (if applicable).



NOTE

Check that the REGION setting for the set is correct for your area. Otherwise some of the bands may not be scanned correctly, and services may be missed, or the scan may take longer than necessary. See MENU SETTING section for details.

Press MENU and move to "SER (Search)" using navigation key. Locate cursor to "Full Scan" and press SELECT.

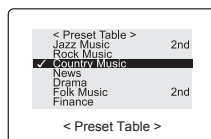
The DR301 begins scanning the entire frequency band and stores every service of the ensembles found.

The scan can take several minutes to complete. Do not press any buttons during this process.

When the scan completes, the DR301 creates a preset table and is tuned to the first service of the first scanned ensemble. The DR301 is now set to Preset mode.

3) OPERATION IN PRESET MODE

To select preset mode, press MENU and move to "SER" (Searching)" menu using navigation key. Locate the cursor at "Preset" and press the SELECT button. The PRE (preset tune) icon will appear and preset tuning mode is activated.



NOTE

If there are no presets in the list, Preset mode cannot be selected, and the set will return to manual tune mode.

To view the preset list press the SELECT button or the (◀) and (▶) buttons.

Use the (▲), and (▼) buttons to navigate through the list.

To quickly go through the list press and hold the (▲), and (▼) keys to go one page at a time through the list.

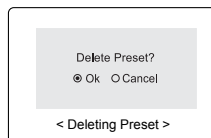
Press SELECT to select the service you want.

NOTE

If you select a service which is not transmitting at that time, the set will display "Not Available" and return to the previous service

!! Deleting a service from the preset list.

When displaying the preset list, highlight the preset to be deleted, then press and hold the SELECT button. Select "YES" to delete preset.



4) DELETING THE ENTIRE PRESET LIST

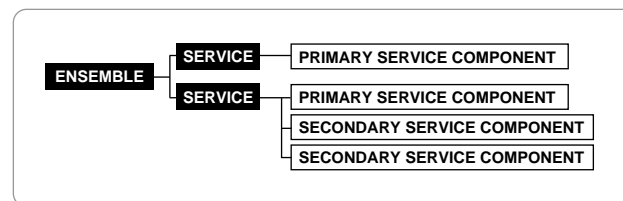
If you move locality to a different region or country, the current preset list may be full of entries which can not be received. You can delete the entire preset list, by doing FULL SCAN as described above.

If you interrupt the full scan by pressing the SELECT button, the preset list will be empty, and you can then add services manually.

5) SECONDARY SERVICES

On some networks, secondary services may be added for extra broadcasts for special programs and events. When a secondary service is available the ">>" will be shown next to the DAB Ensemble name when you are receiving the main or primary service.

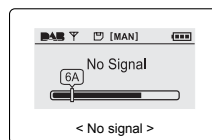
When you press (>), the unit will go to the secondary service. At the end of the transmission, the unit will return to the primary service.



6) OPERATION IN MANUAL TUNE MODE

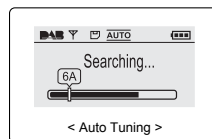
Press MENU and move to "SER" (Searching) menu using navigation key. Locate cursor at "MANUAL" and press the SELECT button. MAN (manual tune) icon will appear and manual tuning mode is activated.

When there is no Dab signal received the display will show "NO SIGNAL".



In manual tune mode pressing the (◀) and (▶) buttons will tune the received channel up or down. See Appendix 4 and check your Region settings for the channel tuned by your set.

To find the next available channel going up press and hold the (▶) button. The tune icon will show AUTO and the unit will search for DAB signals.



When a DAB channel is found, the unit will tune to the first service on that channel.

To tune to the next channel up, press and hold the (▶) button
To tune to the next channel down, press and hold the (◀) button

**NOTE**

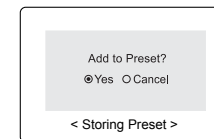
Once a DAB channel is tuned, the (◀) and (▶) keys function to change the service on that channel. When the last service on the channel is reached, the unit will tune the next channel up or down.

7) ADDING SERVICES TO THE PRESET LIST – MANUAL TUNE MODE

You can add services to the list of preset channels, for easy tuning in preset mode. The order they will appear on the preset list is the same as you store them, so you can create your own list.

To add a service to the preset list, press and hold the SELECT button, and then select YES to the question "Add to Preset"

When you have added all the services you need to the preset list, you can change to Preset tune mode for easier tuning.

**8) DATA Services**

In Manual tune mode it is possible to select data services. There is no audio with these services and they cannot be stored in the preset list.

9) Storing Favourite services using the "HOT KEYS"

The DR301 has 3 keys, labelled 1, 2, and 3. These can store your favourite services.

To store a service: press and hold one of the HOT KEYS for 2 seconds.

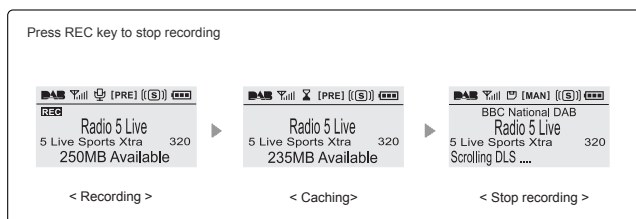
The service can be recalled by pressing and releasing the HOT KEY.

**10) DAB signal recording**

DR301 has DAB signal record feature that enables you to record live broadcasts while listening. DAB recordings are stored in the SD card inserted in the slot. The recording method makes a copy of the DAB broadcast data stream. This is in MP2 format, and the bit-rate will be the same as the original broadcast. The bit rate of the broadcast is shown on the display. The amount of memory used will depend on the service you want to record. As a rough guide the amount of memory required for a 10 minute recording at common bit rates is as follows:

64kbps	5MB	128kbps	10MB
192 kbps	15MB	256kbps	20MB

To start a recording, tune to the service required, and then press and hold the REC key, until the REC icon is shown in the display.
The elapsed time duration of the recording is indicated on the display



< DAB Signal Recording >

To stop the recording press and hold the REC button again. There is a short delay while the file storage is completed.

To playback your recordings, you need to switch to music play mode. See section MUSIC PLAY MODE.

NOTE

1. If the signal strength becomes very weak or is lost during the recording, the recording will stop.
2. If the memory card becomes full, recording will stop.
3. You cannot record data services.

11) REW (Rewind)

The DR301 has a "Rewind" feature, which lets you listen again to the previous one minute of a broadcast.

To use the feature, when listening to a service, press REWIND

You are now listening to the program transmission from one minute before.

The REW icon is shown on the display.

To go back to listen to the live program, press REW again.



NOTE

To get the full one minute of rewind, you must have been listening to the service for over one minute.

This function does not work on data services.

FM Receiver

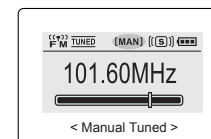
The operation in FM mode is similar to DAB mode.

1) Manual tune mode

Set tune mode to MAN (manual tune). To tune press the (<) or (>) buttons to select the required frequency. When any signal is tuned, the TUNED icon appears and audio is broadcasted.

You can add any frequency to the preset list, by pressing and holding the SELECT button.

At the message "Add to Preset?", locate the cursor at "OK" and press SELECT button to store the frequency in preset table.

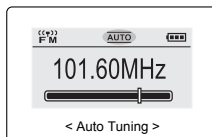


2) Auto tune

Auto tune enables you to scan for the next or previous occupied frequency. Auto tune is available only in manual tune mode.

Press and hold the (◀) or (▶) button until AUTO (auto tune) icon appears on the LCD. When a signal is tuned, AUTO (auto tune) icon switches back to MAN (manual tune) icon and auto tune stops.

To stop auto tune, press the (>) or (<) button at any time.

**3) Preset Tune Mode**

Preset tune enables you to tune to frequencies that are saved in the preset table.

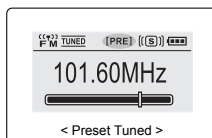
Press MENU and move to "SER (Search)". Locate cursor at "Preset" and press SELECT to set preset tune. The PRE (Preset tune) icon appears on the LCD.

To tune frequencies in the preset list, press the (<) or (>) buttons.

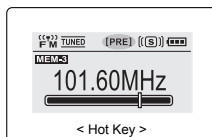
To view and select from the preset list, press the SELECT button, and select the required preset. Then press the SELECT button to tune the station.

The preset list can hold a maximum of 10 frequencies in FM mode.

To delete entries in the preset list, press the SELECT button, to show the preset list. Select the frequency to be deleted and the press and hold the SELECT button.

**4) HOT Keys****(Three most favourite frequencies)**

Setting and operating HOT Keys are designed the same manner as DAB. Refer to HOT Keys in DAB mode.

**5) Record and Rewind Functions**

In FM radio mode, RECORD and REWIND functions do not operate.

Music Player

To switch to music play mode, press MENU and navigate to Music Player function, and press SELECT

1) File Playback and Stop

Before using DR301 in Music Player mode, please insert an SD into the card slot. If SD is not inserted, "Please insert SD" message will appear.

DR301 supports the following file formats : MP2 files (DAB signal recorded files) MP3 files or WMA (Windows Media Audio).

NOTE that some WMA files with DRM (Digital Rights Management) protection may not be played. Press PLAY/ STOP button to play back music files.

To stop playback, press PLAY/ STOP button again.

To conserve battery, DR301 will shut off the power in 30 seconds when stopped.

**2) Track Search**

During playback or while in stop mode, press (◀) or (▶) key to go to the previous or the next track.

To search for a desired part of the track, press and hold (◀) or (▶) button to go forward or backward.

When you reach the desired part of the track, release the (◀) or (▶) button to listen.

3) Additional Menu Options in Music Play mode**a) Delete**

This allows you to delete individual files from the SD memory card. Select the file to be deleted on the display. Press MENU and move to "Del" using navigation key.

Press SELECT when "Delete One" is selected, and selected file or folder will be permanently deleted.

b) Equalizer

Press MENU and move to "Equalizer" using navigation key. Scroll up and down to select one of 6 equalizer modes. Press SELECT to set equalizer option.

Equalizer options available are: Normal, Classic, Jazz, Rock, Pop and User

User Equalizer: This function enables you to adjust bass and treble level separately.

c) Play Mode

Press MENU and move to "Play Mode" using navigation key. Scroll up and down to select play mode (repeat).

Press SELECT to set play mode.

Normal: Play back just one time from the current track to the last track.

Repeat One: Play back the current track repeatedly.

Repeat All: Play back all tracks repeatedly in order.

Shuffle: Play back all tracks repeatedly in random order.

Intro: Play back first 10 seconds of each track.

4) Connecting the DR301 to your Computer

System Requirements :

- Pentium® 150MHz processor or higher
- USB Port support
- Microsoft Windows® 98SE/ME/2000/XP
- 32MB or higher RAM
- 4 x or higher speed CD-ROM drive

Set the DR301 to Music play mode before connecting to your computer. Connect DR301 to your computer using the USB cable supplied.

Windows ME, Windows 2000 or Windows XP should automatically recognise the DR301 it as an removable disk "Mass storage device".

You may need to wait up to 1 minute the first time you connect the DR301 for Windows to install the necessary driver automatically.

Installation under Windows 98

Windows 98SE requires installation of Driver Program provided in DR301 package. Turn on DR301 and set it to Music Player mode. Connect DR301 to PC with supplied USB cable.

Windows 98 will detect the USB device as [New Hardware].

You will be prompted to Add New Hardware. Press [Next] button to proceed. When asked for the driver location, insert the installation CD into the CD-ROM drive.

Specify driver path to driver, for example [DR301_Win98_usbdrv] and click [OK]. When ready, click [Next]. Driver installation will begin automatically.

When driver installation is completed, click [Finish] to terminate the installation process.

When installation is completed, you can check whether DR301 is correctly detected and whether driver is correctly installed by opening " My Computer". A removable disk should be shown in the list of disk drives. If you connect DR301 to a PC running Win ME or Win2000 or Win XP, USB driver will be installed onto your pc automatically.

Disconnecting the DR301 from PC (Windows 98, Windows ME and Windows 2000

If the USB cable is removed arbitrarily, DR301 may get damaged or data may be lost. To avoid such damage, follow the following procedures:

Make sure that all copy processes have finished. Note that under Windows 98 the progress bar may not be accurate

Double click the removable disk icon in the system tray. Click [USB DISK] and then click [Stop].

A confirmation window will appear. Click the USB DISK on this window and then click [OK]. A message will confirm that the "USB Disk can now be safely removed from the system". Click [OK].

5) Transferring files between your computer and the DR301

File upload/download operation works only in Music Player mode.

File upload/download can be done easily by copying and pasting files or by dragging and dropping files onto the removable disk.

You can transfer DAB recording files to your computer where they can be played on media players which support the MP2 format.

6) Using Folders on the DR301

You can organise the files on the DR301 memory card into folders. In this way, you can create folders for different types of music, or recordings. To create or edit folders, you need to connect to your computer and create the folders on the removable drive using Windows. Then you can copy files to the folders you created.

7) Navigating folders on the DR301.

Example – you create a folder called “music” on the DR301 memory card, with several music files – file1.mp3, file2.mp3 etc.

When you turn on the DR301, set music play mode, and use the (>) or (<) keys to show the folder “music”. Press the select key to enter the folder. The first entry is “..” which will take you back up out of the music folder. Press (>) to show file1.mp3, file2.mp3 etc. When displaying “..”, pressing Select will take you back to the root directory.

8) Removable Disk Format

If a bad sector has developed in DR301’s external memory due to a faulty download, it may be necessary to format the external memory. Select the “removable disk” icon and right-click. Select Format.

NOTE

The SD card can be formatted in the FAT16 or FAT32 file systems. For best compatibility with other devices, the FAT16 file system is recommended. All files in DR301 are erased by this operation.

Menu Setting

The main settings and adjustments for the DR301 are in the SET menu page. To enter this menu, press the MENU button, and then press (▷) to select the SET page. Depending on the mode, different options will be available.

1) REGION (ONLY AVAILABLE IN DAB MODE)

To enhance efficiency, please select Region where you use the unit. If the Region setting is NOT properly set, the unit may be set to receive different frequencies from those transmitted in your locality, and it may not tune to DAB services in your region.

To check regional frequency table, please refer to Appendix 3 for the Regional Frequency Table.

NOTE

L Band is an option and may not be available on your set. Please check the box for model details. If you have a Band III only set, you should set the Region to Band III.

Options Available:

Band III: Works for whole Band III region in most European countries except France.

L-Band Europe: Works only for L- Band only region (France).

Band III & L-Band Europe: Works for whole Band III and L-Band region where both L Band and Band III are used, for example Germany..

L-Band Canada: Works only for L-Band in Canada region.

NOTE

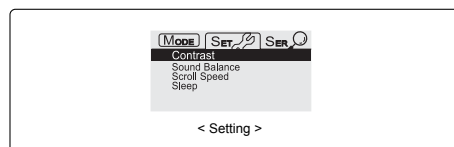
Above-stated regional coverage is subject to change in accordance with DAB service change

2) CONTRAST

You can adjust contrast setting when the LCD does not seem properly adjusted. Press MENU and move to "SET (Setting)" menu using navigation key.

Locate cursor at "Contrast" and press SELECT key to enter contrast setting menu. Contrast level varies from 0 (dark) to 10 (light).

Adjust contrast level using navigation key and press SELECT when contrast level setting is done

**3) BACKLIGHT**

You can adjust the time the backlight stays on after pressing a button. When the backlight is on, the battery life is reduced a little.

Press MENU and move to "SET (Setting)" menu using navigation key. Locate cursor at "Backlight" and press SELECT key to enter backlight setting menu.

Backlight time varies by OFF, 3, 5, 10, 30, and 60 seconds.

Adjust backlight level using navigation button and press SELECT when backlight time setting is done.

4) SCROLL SPEED

You can adjust scroll speed of the DLS text display to optimise readability.

Press MENU and move to "SET (Setting)" menu using navigation button.

Locate cursor at "Scroll Speed" and press SELECT button to enter scroll speed setting menu. Scroll speed varies from 1 to 11.

Adjust scroll speed level using navigation button and press SELECT when scroll speed is properly set.

5) SOUND BALANCE

You can adjust sound balance if sound is biased to left or right.

Press MENU and move to "SET (Setting)" menu using navigation button.

Locate cursor at "Sound Balance" and press SELECT button to enter sound balance setting menu. Sound balance can be set -5 (left) to +5 (right).

Adjust sound balance using navigation key and press SELECT when sound balance is properly set.

6) DLS Text Size (DAB Mode only)

The DLS is the line of scrolling text information at the bottom of the display. You can change the DLS Text size to display either 2 lines of smaller characters, or 1 line of larger characters. Press MENU and move to "SET (Setting)" menu using navigation button.

Locate cursor at "DLS Text Size" and press SELECT button to enter DLS Text resizing menu. DLS Text can be resized to "Large" or "Small".

Resize DLS Text using navigation button and press SELECT when resizing is done.

7) Announcement (DAB Mode only)

Announcement mode is a service which allows broadcasters to transmit special messages to interrupt normal programs. These messages may be alarms, emergencies, news, traffic or other services. Your broadcaster may not be using this feature. If announcements are selected, the set will receive the announcement message, and then return to your previous service.

You can select which announcement types you want to receive from 12 announcement types:

Select All	Alarm	Traffic News	Transport News
Warning	News	Weather	Event
Special Event	Radio Information	Sports News	Financial News

Press MENU and move to "SET (Setting)" menu using navigation key.

Locate cursor at "Announcement" and press SELECT key

You can select, single, multiple or all announcements to be active.**1. Single announcement selection:**

Scroll up and down over the list of announcement. Press SELECT on the announcement you would like to be activate, and press MENU to save and exit the setting menu. To deselect the announcement press SELECT again when cursor is on that announcement.

2. Multiple announcement selection:

Scroll up and down over the list of announcement. Press SELECT on every announcement you would like to be activated, and press MENU to save and exit the setting menu. The selection is not saved unless MENU is pressed.

3. All announcement selection:

Scroll up and down over the list of announcement and locate cursor on "Select All". Press SELECT, and all announcements will be selected. To deselect press SELECT again. Press MENU to save setting and exit.

NOTE

1. The Announcement service overrides the current DAB service listening at all times.
2. To stay on the announcement do not press any buttons. DAB service will be automatically brought back when the announcement ends.
3. To skip the announcement and return to your program, press the SELECT button during the announcement. Normal DAB service will be brought back immediately.

8) Sleep

The Sleep feature enables you to turn the unit off automatically after desired amount of time.

Press MENU and move to "SET (Setting)" menu using navigation key. Locate cursor at "Sleep" and press SELECT button to set sleep timer.

Sleep timer can be set from 0 (off) to 60 minutes in 1 minutes increments.

Set the sleep time using the navigation key and press SELECT when sleep timer is set. Sleep timer is activated when setting is done.

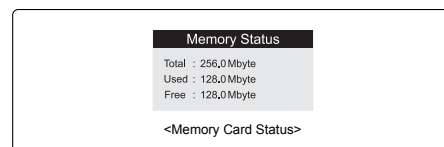
This setting is common to DAB Receiver, FM Radio and Music Player modes.

9) Memory Card Status

This enables you to check original size, used space, and available space of memory card (SD).

To check memory card status, press the MENU and move to "SET (Setting)" menu using navigation button. Locate cursor at "Memory Status" and press SELECT key.

Press SELECT key or MENU button to exit the menu.

**NOTE**

To check Memory Card Status in Music Player mode, please stop playback. Memory status can only be checked when the unit is stopped.

10) FIRMWARE UPGRADE - Only available in Music play mode
Updates may be released to improve the operation and features on the DR301.

To check if there are any updates go to the website

www.perstel.co.uk/downloads

and check for latest updates and release notes.

To upgrade the firmware:

Download the latest update file DR301UCF.bin and UPGRADER.dat from the website.

Set the DR301 to music play mode, and connect it to your computer using the USB cable.

Copy the DR301UCF.bin and UPGRADER.dat file to the DR301 top level folder.

NOTE

SD card must be inserted.

Disconnect the DR301

Select Firmware upgrade from the settings menu and press the SELECT button

The firmware will be upgraded – it takes about 90 seconds. At the end of the update, the DR301 will turn off.

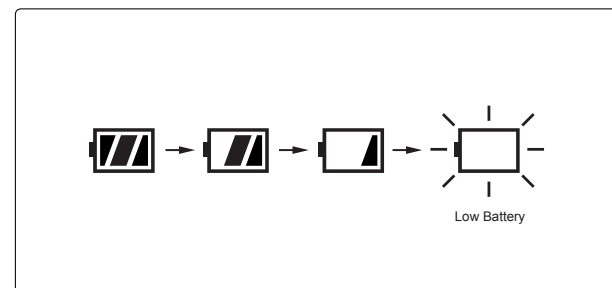
Turn on the DR301 again, the unit should operate correctly, and the later firmware issue will be shown at power-on.

NOTE

Do not try to turn off or remove the batteries during the firmware update. Damage could result.

BATTERY AND MAINS ADAPTOR OPERATION

DR301 is a battery operated unit, and displays the battery capacity on the screen.



When the battery icon blinks you need to replace the batteries immediately. When the batteries are exhausted the display will show “Low Battery” and the unit will be turned off automatically within a few minutes.

Rechargeable batteries may be used with DR301. An external charger is required. For optimum use, Nickel Metal Hydride (Ni-MH) types are recommended.

DR301 works with an optional mains adaptor.

The adaptor must provide a regulated power supply of 5V, 300mAh.

The use of unregulated supplies or different voltages may cause permanent damage to the unit. A suitable mains adaptor can be purchased from Perstel.

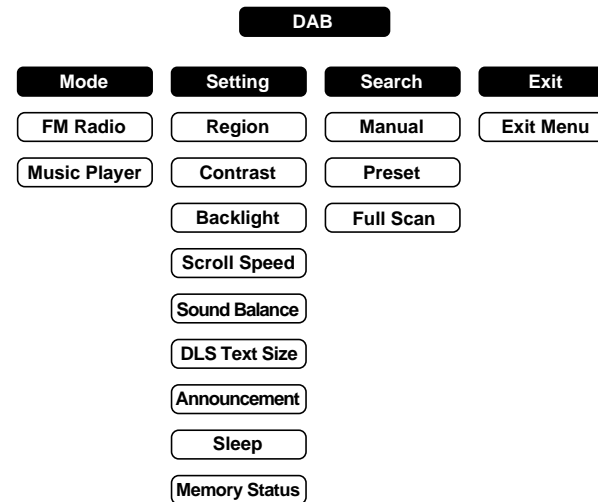
For connection, plug the adaptor into the socket on the base of the unit.

The internal batteries are disconnected when the power adaptor is plugged in.

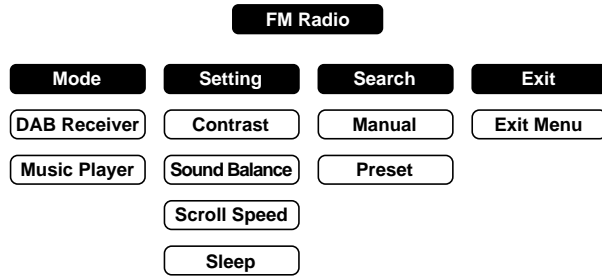
APPENDIX 1. Trouble Shooting

Fault	Solution
· The unit does not turn on.	Replace batteries. Check battery polarity.
· A DAB signal cannot be received.	Check if you are out of available DAB service area. Adjust antenna length or redirect antenna. Try other channels.
· The received signal strength is too weak	Try extending or re-positioning the antenna. It may be required to try another location. Keep away from PC's or other possible interference sources
· No Audio	Check audio format icon. If audio format shows "DATA", no audio service is provided. Earphone is not properly plugged, or malfunctioning. Replace earphone or plug-in properly. Volume is turned fully down.
· Buttons do not work	Check if Hold icon is on. Release Button Hold mode by sliding HOLD key counter-clockwise.
· LCD dim	Adjust the contrast of the LCD display
· Backlight does not turn on	Check the backlight setting and adjust.4

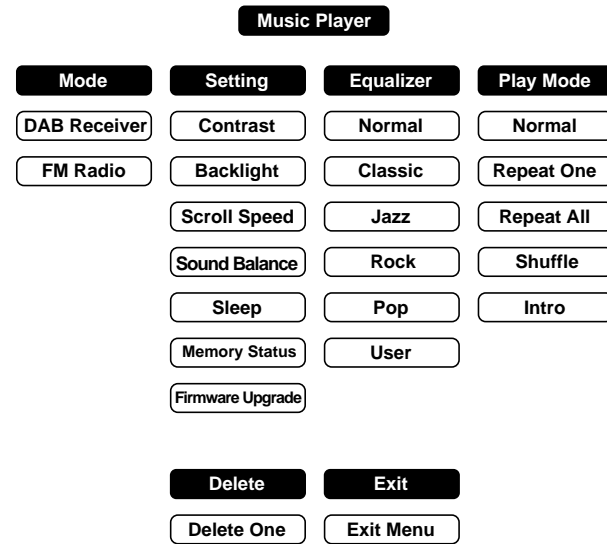
APPENDIX 2. Menu Tree



APPENDIX 2. Menu Tree



APPENDIX 2. Menu Tree



Appendix 3 Regional Frequency Table

▶ Band - III

Frequency	Label	Frequency	Label	Frequency	Label
174.928MHz	5A	199.360MHz	8C	220.352MHz	11C
176.640MHz	5B	201.072MHz	8D	222.064MHz	11D
178.352MHz	5C	202.928MHz	9A	223.936MHz	12A
180.064MHz	5D	204.640MHz	9B	224.096MHz	12N
181.936MHz	6A	206.352MHz	9C	225.648MHz	12B
183.648MHz	6B	208.064MHz	9D	227.360MHz	12C
185.360MHz	6C	209.936MHz	10A	229.072MHz	12D
187.072MHz	6D	210.096MHz	10N	230.784MHz	13A
188.928MHz	7A	211.648MHz	10B	232.496MHz	13B
190.640MHz	7B	213.360MHz	10C	234.208MHz	13C
192.352MHz	7C	215.072MHz	10D	235.776MHz	13D
194.064MHz	7D	216.928MHz	11A	237.488MHz	13E
195.936MHz	8A	217.088MHz	11N	239.200MHz	13F
197.648MHz	8B	218.640MHz	11B		

▶ L- Band Europe

Frequency	Label	Frequency	Label	Frequency	Label
1452.960MHz	LA	1466.656MHz	LI	1480.352MHz	LQ
1454.672MHz	LB	1468.368MHz	LJ	1482.064MHz	LR
1456.384MHz	LC	1470.080MHz	LK	1483.776MHz	LS
1458.096MHz	LD	1471.792MHz	LL	1485.448MHz	LT
1459.808MHz	LE	1473.504MHz	LM	1487.200MHz	LU
1461.520MHz	LF	1475.216MHz	LN	1488.912MHz	LV
1463.232MHz	LG	1476.928MHz	LO	1490.624MHz	LW
1464.944MHz	LH	1478.640MHz	LP		

▶ L- Band Canada

Frequency	Label	Frequency	Label	Frequency	Label
1452.816MHz	01	1466.768MHz	09	1480.720MHz	17
1454.560MHz	02	1468.512MHz	10	1482.464MHz	18
1456.304MHz	03	1470.256MHz	11	1484.208MHz	19
1458.048MHz	04	1472.000MHz	12	1485.952MHz	20
1459.792MHz	05	1473.744MHz	13	1487.696MHz	21
1461.536MHz	06	1475.488MHz	14	1489.440MHz	22
1463.280MHz	07	1477.232MHz	15	1491.184MHz	23
1465.024MHz	08	1478.976MHz	16		

Appendix 4 Specifications

Classifications	Specifications	Options
Frequency Range	Band-III : 174 MHz ~ 240MHz L-BAND : 1452 MHz ~ 1492MHz FM : 87.5 MHz ~ 108MHz	V L (Option) F
Battery	3AA size alkaline cells	
Adaptor	5V / 350mA	
Display	4-Line Full graphic LCD with EL backlight	
Audio Output Power	18mW+18mW(L+R) @ 16Ω	DAB
Audio Frequency Range	20Hz ~ 20KHz*	
Dimension	108 × 61 × 27.3 (mm) 4.25 × 2.44 × 1.07 (Inch)	
Operating Temperature	-5°C ~ +35°C	
Storage Temperature	-40°C ~ +80°C	
Music Player Format	MP2 / MP3 / WMA	

*: Information in this document is subject to change without notice.

APPENDIX 5. Warranty

1. About Warranty Service

Perstel Limited warrants that this product will be free from defects in materials and workmanship for a period of one(1) year from the date of purchase. Should you have any problems within this period, simply take the product and your proof of purchase to your dealer and the product will be repaired without charge for parts and labour.

Perstel Limited reserves the right to charge for transportation. Any product that has been subject to misuse or accidental damage is excluded from this warranty. This warranty is only applicable to products purchased through approved dealers and to products that are presented for repair in a country where Perstel Limited offers the product for sale.

While this warranty does not confer any legal rights other than those set out above, you may have additional statutory rights that will vary under the laws of the various countries, states, provinces and other governmental entities in which Perstel Limited's products are being sold. This warranty is subject to all statutory rights you may have in the country of purchase.9

2. Product Information

Product name	
Product code	
Serial number	
Date of purchase	/ / (mm/dd/yy)
Dealer	
Customer	Name
	Contact

3. Warranty Exclusions

The following reasons for repair are excluded from our warranty coverage: any service request due to lack of knowledge of product (read Owner's Manual carefully); misuse or improper medication (do not open the circuitry without Service Manual); uncontrollable forces (keep away from fire, salty water, flood, etc.); and out of product life. There is a charged service for parts replacement.

4. Warranty Statement

This warranty Statement will not be reissued.
Please keep with Owner's Manual with good care.

Perstel Limited
Lansdowne Building
2 Lansdowne Road
Croydon CR9 2ER
www.perstel.co.uk
Contact : support@perstel.co.uk
Tel : 020 8263 6123

A large rectangular area with a light gray background and a thin black border, containing horizontal dashed lines for writing.

40 | MEMO

A large rectangular area with a light gray background and a thin black border, containing horizontal lines for writing. The lines are arranged in a grid pattern, with a solid line at the top and bottom, and dashed lines in between. There are 18 lines in total, including the solid top and bottom lines.