

D I G I T A L A U D I O B R O A D C A S T I N G

D I G I T A L A U D I O B R O A D C A S T I N G

Owner's Manual

DR 301

**Perstel**  
DR 301



Personal Telecom, Inc.  
as@perstel.com

**SAFETY PRECAUTIONS**

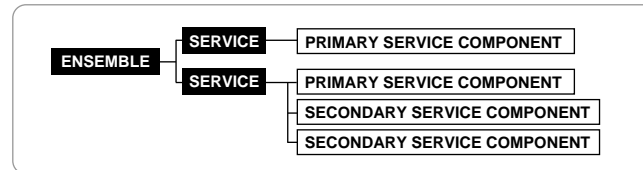
To prevent injury and/or damage, take the following precautions;

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.

**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 autoscan function creates a list of all the radio channels in your location from which you can chose your favorites.

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.



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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



DR301 DAB  
Digital Radio



Stereo Earphone



3 AA Alkaline Batteries



Wrist Strap



USB Cable

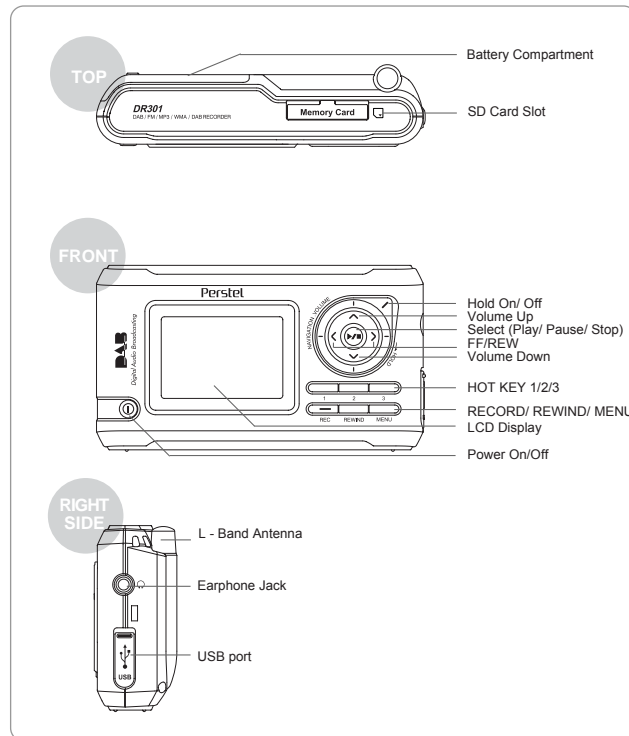


CD (Manual & Driver  
installation program)

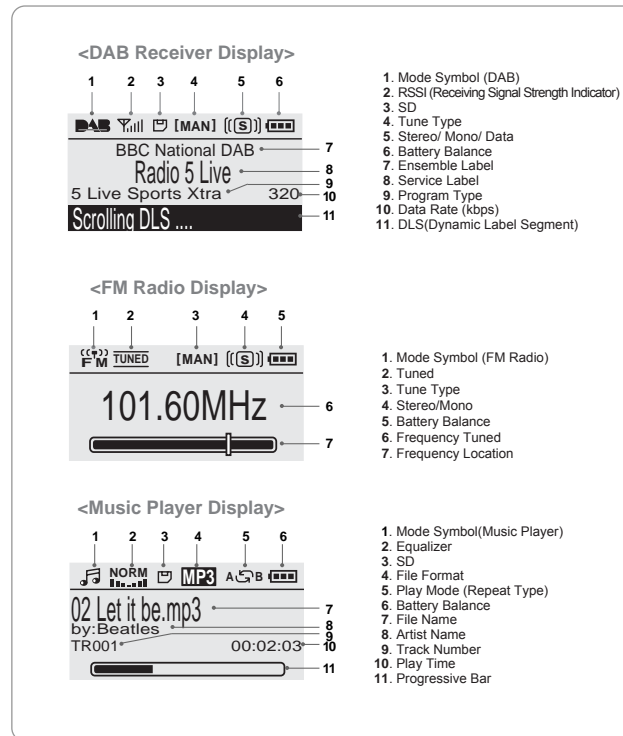


Owner's Manual

Controls Diagram



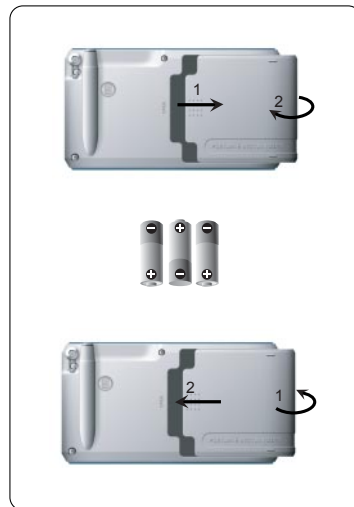
LCD Display



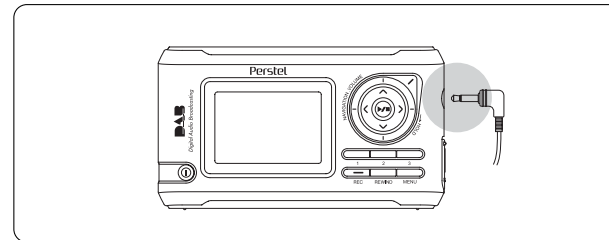
**Preparation to use****1) Battery Insertion and Replacement**

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.

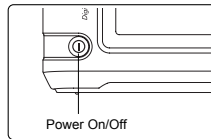
**2) Plug-in earphone**

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.



**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.

**Antenna Setting**

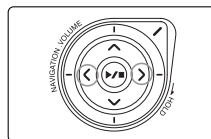
DR301 has two antenna systems for Band-III and L-Band.

- 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.

**Volume Control**

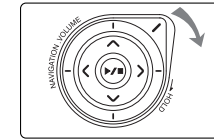
To adjust volume to a desired level press volume key upward or downward. When the volume key is pressed and held the volume level will gradually be raised or lowered.

DR301 has 20 steps of digital volume control. To avoid hearing problem please do not keep the volume level too high.

**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.



**DAB Receiver****BASIC OPERATION GUIDE**

DR301 is a multi-talented DAB radio that works on FM radio and music player mode too. This chapter guides how to operate DAB functions and how to customize various settings in DAB mode.

**1) Mode Change****a) Switching to FM Radio mode**

- Press MENU button.
- When "MODE" appears, locate cursor at "FM Radio" using navigation key and press SELECT key to change mode.

**b) Switching to Music Player mode**

- Press MENU button.
- When "MODE" appears, locate cursor at "Music Player" using navigation key and press SELECT key to change mode.

**2) Display Settings****a) 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 (bright).
- Adjust contrast level using navigation key and press SELECT when contrast level setting is done.
- ※ This setting is common to DAB Receiver, FM Radio and Music Player modes.

**b) Backlight**

You can make backlight last longer, shorter or completely disabled depending on amount of light of where you use the unit.

- 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 level varies from 0 to 5 seconds.
- Adjust backlight level using navigation key and press SELECT when backlight level setting is done.
- ※ This setting is common to DAB Receiver, FM Radio and Music Player modes.

**c) Scroll Speed**

You can adjust scroll speed slow or fast.

- Press MENU and move to "SET (Setting)" menu using navigation key.
- Locate cursor at "Scroll Speed" and press SELECT key to enter scroll speed setting menu. Scroll speed varies from 1 (slow) to 11 (fast).
- Adjust scroll speed level using navigation key and press SELECT when scroll speed is properly set.

**d) 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 key.
- Locate cursor at "Sound Balance" and press SELECT key 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.
- ※ This setting is common to DAB Receiver, FM Radio and Music Player modes.

## e) DLS Character

You can resize DLS character for better look of DLS information.

- Press MENU and move to "SET (Setting)" menu using navigation key.
- Locate cursor at "DLS Character" and press SELECT key to enter DLS character resizing menu. DLS character can be resized to "Large" or "Small" character.
- Resize DLS character using navigation key and press SELECT when resizing is done.

## f) Announcement

You can selectively enjoy announcement among 12 (twelve) classified announcements. Number of announcements may increase as broadcast changes.

- Press MENU and move to "SET (Setting)" menu using navigation key.
- Locate cursor at "Announcement" and press SELECT key to set most favorite announcement(s) you will be serviced. Announcement service can be selected by one, multiple numbers or all.
- Scroll up and down over the list of announcements and press SELECT on every wanted announcement you would like to be serviced.
- Press MENU button to exit when all wanted announcements are selected. Announcement selection is done and saved.

## \* TIP- Announcement selection

## 1. Single announcement selection:

Scroll up and down over the list of announcement. Press SELECT on one of most favored announcement you would like to be serviced, 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 serviced, and press MENU to save and exit the setting menu. 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.

## \* TIP- Announcement service

1. Announcement service overrides current DAB service at all times when an announcement is broadcasted at any moment (that announcement must be preselected).
2. To stay on the announcement do not handle any keys or buttons. Normal DAB service will be automatically brought back when the announcement ends.
3. To skip the announcement press SELECT at any moment during the announcement is serviced. Normal DAB service will be brought back immediately.

## ► The following announcements are available in DAB mode.

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



## g) Sleep

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 key to set sleep timer. Sleep timer can be set from 0 (off) to 60 minutes by each 1 minutes.
- Set sleep timer using navigation key and press SELECT when sleep timer is properly set. Sleep timer is activated when setting is done.

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

## h) Program Type

You can selectively enjoy classified program if a certain program type is selected.


- Press MENU and move to "SET (Setting)" menu using navigation key.
- Locate cursor at "Program Type" and press SELECT key to set favorite program type(s) you will be serviced.
- Scroll up and down over the list of program types and press SELECT to save favorite program type.
- Press MENU button to exit when all wanted program types are selected. Program types are saved.

## ▶ The following program types are available in DAB mode.

News	Culture	Light Classics M
Current Affairs	Science	Serious Classics
Information	Varied Speech	Other Music
Sport	Pop Music	Varied Speech
Education	Rock Music	Pop Music
Drama	Easy Listening	Rock Music
Easy Listening	Children's Progs	Jazz Music
Light Classics M	Social Affairs	Country Music
Serious Classics	Religion	National Music
Other Music	Phone In	Oldies Music
Weather & Metr	Travel & Touring	Folk Music
Finance	Leisure & Hobby	Documentary

## i) Firmware Upgrade

When new or enhanced functions are available, Perstel releases new firmware. Latest firmware is available to download from the Perstel website. (<http://www.perstel.co.uk>)

- Download the latest firmware from Perstel website to PC.
- Copy the downloaded firmware file from PC to SD.
- When file copy is finished, insert the SD into the SD slot of DR301. The External Memory Card icon (  ) will appear on the screen.
- Press MENU and move to "SET (Setting)" using navigation key.
- Locate cursor at "Firmware Upgrade" and press SELECET to begin firmware upgrade.
- New firmware will be loaded to DR301, and DR301 will automatically restart to implement new firmware.

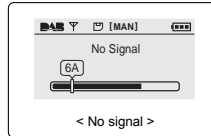
### 3) Service Tune and Search

DAB signals transmitted through radio frequency are called "ensembles" which consists of several "services". Most of services are available at all times, but a few of them are available at a certain time for a certain duration of a day only.

The DR301 begins tuning when it is powered on. When an ensemble is captured the first service is loaded with all related information of the service displayed on the LCD. If current ensemble is not serviced in your area "No Signal" message will appear on the LCD. "No Signal" means either no service or very weak signal. Please then try another ensembles.

- Other services: If you would like to try other service of current ensemble, press forward (backward) button and the second, the third ... service will be loaded. Beyond the last service is the first service of next ensemble, and beyond the first service is the last service of previous ensemble.
- Data services: Most of ensembles service more than one data services (**DATA** icon appears). Data service does not deliver audio though it is tuned.
- Other ensembles: If you would like to try other service of different ensemble press and hold forward or backward button for more than one second. Ensemble changes to next or previous and the DR301 begins tuning the first available service of that ensemble.
- No Signal: When next or previous ensemble contains no service "No Signal" message will appear on the screen. "No Signal" means either no service or very weak signal. Please then try another ensembles.

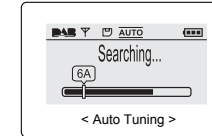
There are several ways of tuning and searching favorite services with the DR301. Please check Manual Tune, Preset Tune, Program Type Searching and Full Scan like the followings.



#### a) Auto Tune

Auto tune enables you to get the very next available DAB ensemble in your area.

Press and hold navigation key forward or backward until AUTO (Auto tuning) icon appears on the LCD (Auto tune is available when Tune mode is set MAN or manual.). The DR301 begins searching the very next/ previous available DAB ensemble. The LCD displays "Searching" message until new DAB ensemble is tuned. When first available DAB ensemble is tuned, the DR301 loads the first service of the ensemble and auto tune is over. The tune icon changes from AUTO to MAN (manual tune). When there is no DAB ensemble detected from auto tune, the LCD displays "No Signal" and auto tune is over at the starting point.



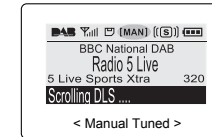
#### b) Manual Tune

Manual Tuning enables you to tune ensemble by frequency chart. Manual tuning is useful when the unit does not have preset list.

To tune to ensemble by manual tuning, set tuning mode to MAN (manual tune) and press navigation forward or backward repeatedly until a desired ensemble is tuned.

Do the followings to set tuning mode to manual.

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



## c) Preset Tune

Preset or preset tuning enables you to tune ensemble by stored preset list. Do the followings to set tuning mode to preset.

- Press MENU and move to "SER (Searching)" menu using navigation key.
- Locate cursor at "Preset" and press SELECT key.
- PRE (preset tune) icon will appear and preset tuning mode is activated.



## d) PTY Search (Program Type Search)

PTY (Program Type) Tune enables you to tune to the services by program type. For PTY tune please select program type you wish to tune. (Refer to page 14 for program type selection.) When PTY tune is selected, DR301 begins finding services matching to your program type.



> Do the followings to search all services matching to preselected PTY (program type).

- Press MENU and move to "SER (Searching)" menu using navigation key.
- Locate cursor to "PTY Search" and and press SELECT key. Tuning begins. Tuning does not begin unless program type is selected. (Refer to page 14 for program type selection.)
- When PTY tune completes, a preset table is created with all services related to selected program types stored.

※ If no service is found during PTY Search, a "No Match Station" message will be displayed on the LCD.

## e) PTY in Preset

To use PTY in Preset (Program Type in Preset) function, one or more preset should be stored in preset table.

For PTY tune please set program type you wish to tune. (Refer to page 14 for program type selection.)

Do the followings for PTY in Preset tune.

- Press MENU and move to "SER (Searching)" menu using navigation key.
- Locate cursor to "PTY in Preset" and press SELECT key.
- DR301 begins scan preset table and sort services matching to program type selected.
- All services with same program type will be displayed on preset table and other services will be skipped.
- Explore desired services in the list using navigation key and press SELECT when found.

## e) Full scan

Full scan enables you to scan the entire ensembles and store every first service of ensembles to preset table.

Do the followings to create preset table followed by full scan.

- Press MENU and move to "SER (Search)" using navigation key.
- Locate cursor to "Full Scan" and press SELECT.
- DR301 begins scanning the entire ensembles and stores every first service of ensembles being serviced.
- When full scan completes, DR301 creates preset table and is tuned to the first service of the first scanned ensemble.

#### TIP-OPERATION DURING FULL SCAN

- To stop full scan while in progress, press SELECT (Play/ Pause/ Stop) key at any time. Full scan will immediately stop, and scanned services are stored in preset table.
- A "Searching" message will appear while full scan is in progress.
- When full scan is over, preset table is created and the DR301 is tuned to the first service of first ensemble scanned.
- If there is no service/ ensemble available after all, a "No Signal" message will appear.

#### 4) Exit

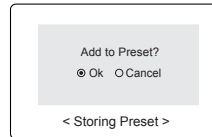
To exit setting and return to original mode, press "EXIT Menu" at any time while you are in menu mode. To return to original mode without making change, press MENU at any time before pressing SELECT.

#### Preset Setting

Preset table holds maximum 100 services capacity. It enables you to tune to your favorite services. There are several ways to make changes to preset table. Do the followings to make changes to preset table.

a) Do the followings to store or add more presets to existing preset table.

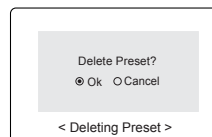
- Keep the tune mode to MAN (manual tune).
- Press SELECT key for more than one second when a service is tuned and you like to keep it as preset.
- A prompt appears as "Add to Preset?", then select "OK" and press SELECT to store. (Otherwise choose "Cancel")
- Current service is added to current preset table, and the unit still remains tuned to current service. Preset table is created if it does not exist.



b) Deleting Preset

Do the followings to delete services from preset table.

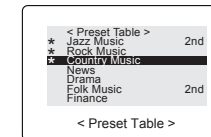
- Keep the tune mode to PRE (preset tune).
- Change tuning mode to preset mode. (refer to page 18)
- Press SELECT key for more than one second, and the preset table will appear.
- Scroll up and down to find service(s) to delete, and press SELECT key for more than one second.
- A prompt of "Delete Preset?" will appear, then select "OK" and press SELECT to delete. (Select "Cancel" otherwise)



- Selected service is deleted from preset list and preset table is brought back for another deletion.
- To go back to original mode press MENU button at any time.

c) Selection from Preset Table

- Change tuning mode to preset tune mode (refer to page 18)
- Press SELECT key for more than one second.
- Preset table will be loaded.
- Scroll up and down using navigation key till a desired service is found.
- Press SELECT shortly, and the unit immediately changes to selected service.
- To return to previous mode press MENU button.



#### Bookmark Setting

This function enables you to easily move frequently used channels into Preset Table. Checked Bookmark Service will be displayed in Preset Table.

Bookmark Select/Unselect is available only on Preset Table in Preset Tune mode.

- Change tune mode to preset tune (refer to page 18).
- Press SELECT key for more than one second to bring up preset table.
- Scroll up and down to choose services to bookmark.
- Press REC button to bookmark. An asterisk(\*) mark appears on bookmarked service.
- Press REC key again to unmark, and the asterisk(\*) mark disappears.

### HOT Keys (Thee most favorite services)

In addition to preset feature, DR301 enables you to keep 3 of most favorite DAB services that is called HOT Key. Do the followings to set HOT Keys.



- When one of your most favorite services is tuned, press one of HOT Keys (1 to 3) for more than one second.
- **MEM1** to **MEM3** icons appears on upper left corner of the LCD - depending on which HOT Key is pressed - confirming HOT Key is set. HOT Key setting is done one at a time.
- To recall stored services, press HOT Keys shortly. Stored service is recalled with **MEM1** to **MEM3** icons whether you are tuned to other service or even not tuned. (Make sure you are within service area.)
- HOT Keys can store different services whenever you press HOT Keys (1 to 3) for more than one second.

### REW (Rewind)

One of remarkable talents of DR301 is this Rewind feature. Rewind allows you to listen to broadcast gone one minute ago. To listen to past broadcast do the followings.

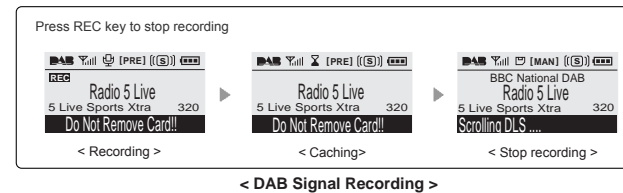


- Press REW (Rewind) button, and DR301 delivers broadcast passed one minute ago.
- Rewind (REW) icon appears on top of the LCD and service label will blink.
- To release rewind and go back to current broadcast, press REW (Rewind) button again or move to other services using navigation key.

### DAB signal record

DR301 has DAB signal record feature that enables you to record live broadcast while listening to it. Do the followings to record DAB broadcast.

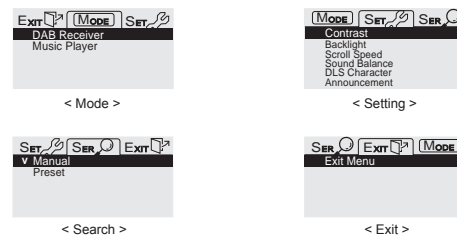
- DAB signal is stored in SD card inserted in the slot. Make sure SD card is properly inserted and it has enough memory space.
- To record the broadcast, press REC (Record) button for more than one second.
- Recording broadcast begins and **REC** icon appears on the LCD.
- Recording ends at any case when service signal is too weak to hold or REC button is pressed again or other key operation is made.
- When recording completes, timer icon appears for one to two seconds and the signal is being stored into the SD card.
- DAB signal is recorded in MPEG2 (MUSICAN) format, and available in music player mode for playback.



## FM Radio

### Other FM Radio Functions and Mode Settings

▶ The following mode settings are available in FM Radio mode.



#### 1) Mode Change

##### a) Switching to DAB Receiver mode

- Press MENU button.
- When "MODE" appears, locate cursor at "DAB Receiver" using navigation key and press SELECT to change mode.



##### b) Switching to Music Player mode

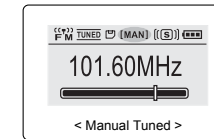
- Press MENU button.
- When "MODE" appears, locate cursor at "Music Player" using navigation key and press SELECT to change mode.



## Frequency tuning

### a) Manual tune

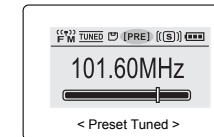
- Set tune mode to MAN (manual tune).
- Press forward or backward button repeatedly until desired frequency is tuned.
- When any signal is tuned TUNED ( TUNED ) icon appears and audio is broadcasted.



### b) Preset tune

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

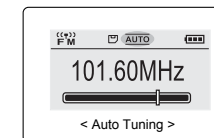
- Press MENU and move to "SER (Search)".
- Locate cursor at "Preset" and press SELECT to set preset tune. PRE (Preset tune) icon appears on the LCD.
- Use preset table or move navigation key forward/ backward to tune to wanted frequency.
- ※ You need to create preset table when preset does not exist. Refer to e) Full Scan (page 19) to create preset table.



### c) Auto tune

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

- Press and hold forward or backward 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 forward or backward button at any time. Auto tune stops whether or not a signal is tuned.



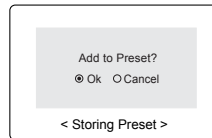
**Preset tune**

Preset tune enables you to tune to frequencies stored in preset table. DR301 holds maximum 10 presets in FM radio mode.

**a) Storing Preset**

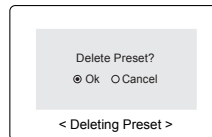
Preset setting(storing) is available only in Manual Tune mode.

- When a frequency is tuned, press SELECT for more than one second.
- When a message "Add to Preset?" prompts, locate cursor at "OK" and press SELECT key to store the frequency in preset table.
- Current frequency is stored in preset table and the unit stays tuned to current frequency.

**b) Deleting Preset**

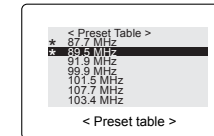
Deleting stored presets in Preset Table is only available in Preset Tune mode.

- Switch tune mode to preset tune. (Refer to page 25.)
- Press SELECT key for more than one second. Then preset table appears.
- Scroll up and down to select frequency you wish to delete.
- Press SELECT key for more than one second. When a message box "Delete Preset?" prompts, locate cursor at "OK" and press SELECT to delete the frequency from preset table.
- Current frequency is deleted from preset table, and preset table is brought back again. (Current frequency is still tuned though that is deleted from preset table.)
- To go back to preset tune mode, press MENU button.

**c) Preset Table**

You can bring up preset table and choose frequency from the preset list at any time in preset mode.

- Set mode to preset tune. (Refer to page 25.)
- Press SELECT for more than one second.
- Preset table will appear on the screen.
- Scroll up and down using navigation key and press SELECT on frequency you wish to tune.

**Bookmark Setting**

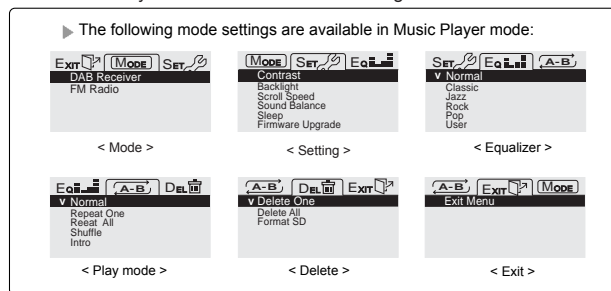
Refer to Bookmark in DAB mode setting.

**HOT Keys (Three most favorite frequencies)**

Setting and operating HOT Keys are designed the same manner as DAB. Refer to HOT Keys in DAB mode. (Page 22)

## Music Player

Other Music Player Functions And Mode Settings.



### 1) Mode Change

#### a) Switching to DAB Receiver mode

- Press MENU button.
- When "MODE" appears, locate cursor at "DAB Receiver" using navigation key and press SELECT to change mode.



#### b) Switching to FM Radio mode

- Press MENU button
- When "MODE" appears, locate cursor at "FM Radio" using navigation key and press SELECT to change mode.



### 2) Display Settings

#### a) 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 (bright).
- Adjust contrast level using navigation key and press SELECT when contrast level setting is done.

#### b) Backlight

You can make backlight last longer, shorter or completely disabled depending on amount of light of where you use the unit.

- 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 level varies from 0 to 5 seconds.
- Adjust backlight level using navigation key and press SELECT when backlight level setting is done.

#### c) Scroll Speed

You can adjust scroll speed slow or fast.

- Press MENU and move to "SET (Setting)" menu using navigation key.
- Locate cursor at "Scroll Speed" and press SELECT key to enter scroll speed setting menu. Scroll speed varies from 1 to 11.
- Adjust scroll speed level using navigation key and press SELECT when scroll speed is properly set.

#### d) 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 key.
- Locate cursor at "Sound Balance" and press SELECT key 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.



**e) Sleep**

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 key to set sleep timer.
  - Sleep timer can be set from 0 (off) to 60 minutes by 1 minutes.
- Set sleep timer using navigation key and press SELECT when sleep timer is properly set. Sleep timer is activated when setting is done.

**f) Firmware Upgrade**

- Refer to Firmware Upgrade in DAB mode setting.

**3) 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: Normal, Classic, Jazz, Rock, Pop and User
  - ※ User Equalizer: This function enables you to adjust bass and treble level separately.

**4) 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.

**5) Delete**

- Press MENU and move to "Delete" using navigation key.
- Press SELECT when "Delete One" is selected, and selected file will be permanently deleted.

**6) Exit**

To exit the setting and go back to the original mode, You may press "Exit Menu" at any time. You can also cancel the setting and go back to the original mode by pressing MENU button at any time.

**File Playback and Stop**

Before using DR301 in Music Player mode, please insert 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
- WMA (Windows Media Audio)
- Press PLAY/PAUSE/STOP key to play back music files.
- To stop playback, press PLAY/PAUSE/STOP key again.
  - ※ To conserve battery, DR301 will shut off the power in 10 seconds when stopped.

**Track Search**

- During playback or while in stop mode, press forward or backward key to search previous or next track.
- To search a desired part of the track, press and hold NAVIGATION key forward or backward.
- When reached desired part of the track, release NAVIGATION key to listen.

**Before File Upload / Download**▶ **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

▶ **When plugged in :**

- Windows ME/2000/XP automatically recognizes it as an removable disk.
- Windows 98SE requires installation of Driver Program provided in DR301 package.

**Driver installation (For Windows 98 Only)**

- 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 [D:\ADAPT\_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.

Repeat the above installation steps twice :  
 First for USB mass storage class device  
 Second for ADAPT device interface

- 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 WinME or Win2000 or WinXP, USB driver will be installed onto your pc automatically.

**Warning**

Do not install Window 98 USB driver onto a PC running Windows ME, Windows 2000 and Windows XP.

**File upload / download**

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.

**Disconnecting DR301 from PC**

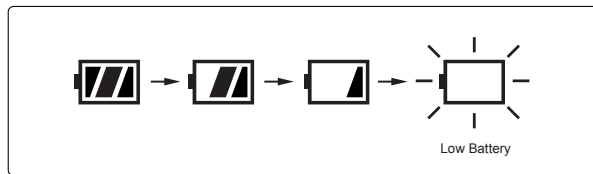
If the USB cable is removed arbitrarily, DR301 may get damaged or data may be lost. To avoid such damage, follow the below procedures:

- 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].
- Unplug the USB cable from DR301.

**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 removable disk and click the right button of mouse. Select Format and click.
- ※ NOTE: All files in DR301 are erased by this operation.

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



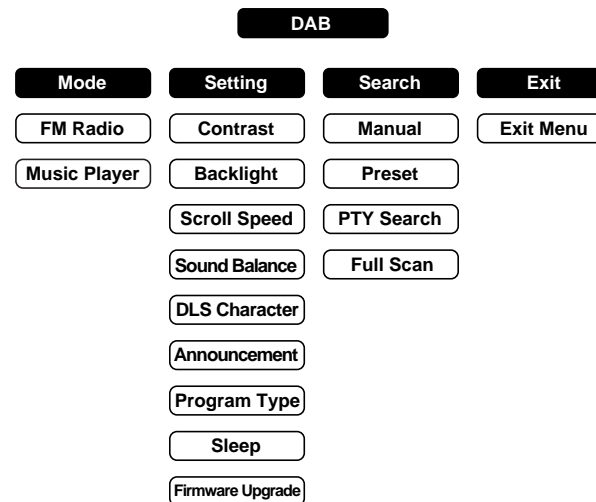
When the battery icon blinks you need to replace the batteries immediately. When the batteries are exhausted the display will show "Low Battery" and the unit will be turned off automatically within a few minutes.

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

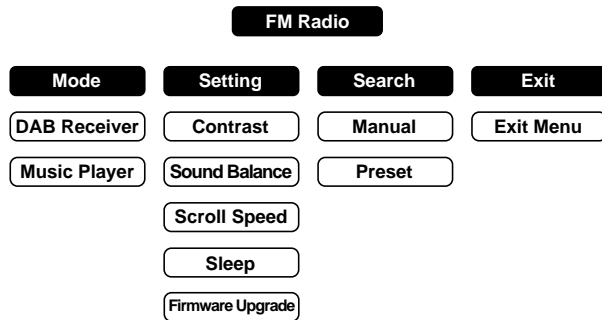
DR301 works with an optional mains adaptor. The adaptor must provide a regulated power supply of 5V, 300mAh. The use of unregulated supplies or different voltages may cause permanent damage to the unit. A suitable mains adaptor can be purchased from Perstel Limited.

For connection, plug the adaptor into the socket on the side of the unit. The internal batteries are disconnected when the power adaptor is plugged in.

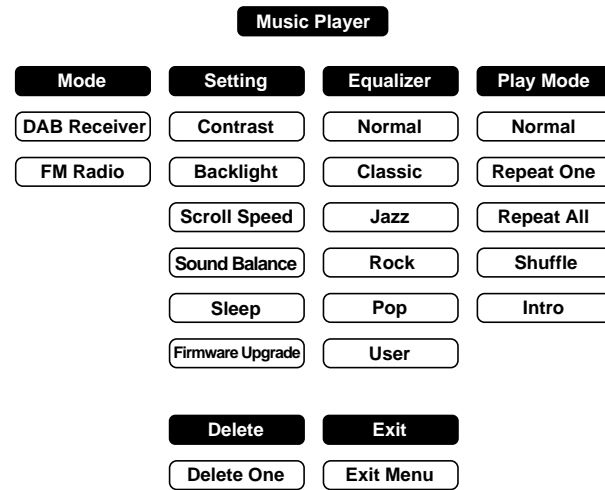
#### Appendix 1 Menu tree - DAB block



Appendix 2 Menu tree - FM Radio block



Appendix 3 Menu tree - Music Player Block



## Appendix 4 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 5 Troubleshooting

Problems	Troubleshooting
· The unit does not turn on.	<ul style="list-style-type: none"> <li>· Replace batteries. Battery might be exhausted.</li> <li>· Check battery polarity.</li> </ul>
· A DAB signal cannot be received.	<ul style="list-style-type: none"> <li>· Check if you are out of available DAB service area.</li> <li>· Adjust antenna length or redirect antenna.</li> <li>· Try other channels.</li> </ul>
· The audio signal is intermittent or mutes.	<ul style="list-style-type: none"> <li>· The received signal strength is too weak. Try extending or re-positioning the antenna. It may be required to try another location.</li> <li>· Keep away from PC's or other possible interference sources</li> </ul>
· The DAB signals received but no sound heard.	<ul style="list-style-type: none"> <li>· Check audio format icon. If audio format shows "DATA", no audio service is provided.</li> <li>· Earphone is not properly plugged, or malfunctioning. Replace earphone or plug-in properly.</li> <li>· Volume is turned fully down.</li> </ul>

Problems	Troubleshooting
· Buttons do not work	<ul style="list-style-type: none"> <li>· Check if "Hold" appeared on Tuning Icon. Release Button Hold mode by sliding HOLD key counter-clockwise.</li> <li>· Remove the USB cable.</li> </ul>
· LCD dim	<ul style="list-style-type: none"> <li>· Adjust the contrast of the LCD display.</li> </ul>
· Backlight does not turn on	<ul style="list-style-type: none"> <li>· Check the backlight setting and adjust.</li> </ul>

## Appendix 6 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 / 300mA	
Display	4-Line Full graphic LCD with EL backlight	
Audio Output Power	10mW+10mW(L+R) @ 16Ω	
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.

### 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 labor.

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.

### 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 vertical rectangular box with rounded corners, containing 18 horizontal lines for writing. The lines are evenly spaced and extend across the width of the box.

A vertical rectangular box with rounded corners, containing 18 horizontal lines for writing. The lines are evenly spaced and extend across the width of the box.

A large rectangular area with a light gray background and a thin black border, containing horizontal lines for writing. The lines are evenly spaced and extend across the width of the area. There are 18 lines in total, with a solid line at the top and bottom, and 16 dotted lines in between.