Job Site DAB Radio

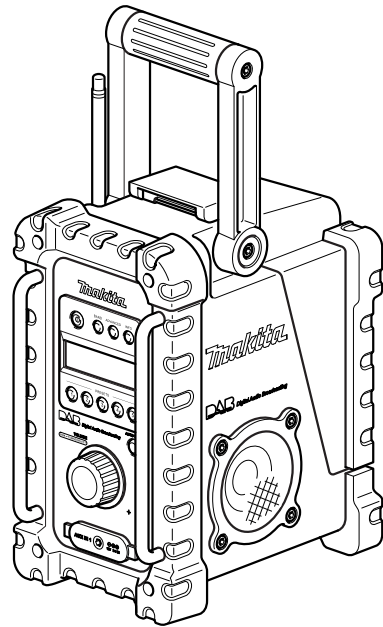**BMR101**

INSTRUCTION MANUAL

IMPORTANT: Read Before Using.

ENGLISH (Original instructions)

Symbols
The following show the symbols used for the equipment. Be sure that you understand their meaning before use.

[i] .... Read instruction manual.

Ni-Cd Ni-MH Li-ion .... Always recycle batteries

IMPORTANT SAFETY INSTRUCTIONS

⚠ **WARNING:**
When using Job Site DAB radio, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury, including the following:

GENERAL SAFETY RULES

1. Before using Job Site DAB radio, read all instructions and cautionary markings of (1) Job Site DAB radio, (2) battery charger, and (3) battery.
2. Clean only with dry cloth.
3. Do not block any ventilation opening. Install in accordance with the manufacturer's instruction.
4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
5. Only use attachments/accessories specified by the manufacturer.
6. Unplug this apparatus during lighting storms or when unused for long periods of time.
7. Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded.

BATTERY CARTRIDGE SAFETY RULES

1. Battery pack must be recharged only with the specified charger for the battery. A charger that may be suitable for one type of battery may create a risk of fire when used with another battery.
2. Use the battery operated radio only with specially designated battery packs. Use of any other battery packs may create a risk of fire.
3. Do not disassemble battery cartridge.
4. If operating time has become excessively shorter, stop operating immediately. It may result in a risk of overheating, possible burns and even an explosion.
5. Do not short the battery packs:
   (1) Do not touch the terminals with any conductive material.
   (2) Do not expose battery cartridge to water or rain. A battery short can cause a large current flow, overheating, possible burns or a fire, and even a breakdown.

(3) When battery pack is not in use, keep it away from other metal objects such as: paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause sparks, burns, or fire.
6. Do not store the battery operated radio and battery packs in locations where the temperature may reach or exceed 50°C (122°F).
7. Do not incinerate the battery packs even if it is severely damaged or is completely worn out. The battery packs can explode in a fire.
8. Be careful not to drop or strike battery.
9. Do not use with damaged battery. If appliance is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, return it to a service center.
10. If electrolyte gets into your eyes, rinse them out with clear water and seek medical attention right away. It may result in loss of your eyesight.
11. Under abusive conditions, liquid may be ejected from the battery, avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.

Tips for maintaining maximum battery life
1. Never recharge a fully charged battery cartridge. Overcharging shortens the battery service life.
2. Charge the battery cartridge with room temperature at 10°C - 40°C (50°F - 104°F). Let a hot battery cartridge cool down before charging it.
3. Charge the Nickel Metal Hydride battery cartridge when you do not use it for more than six months.
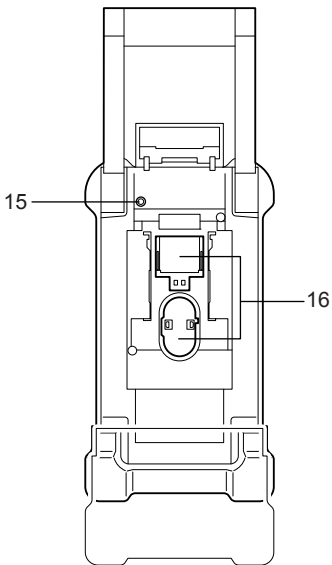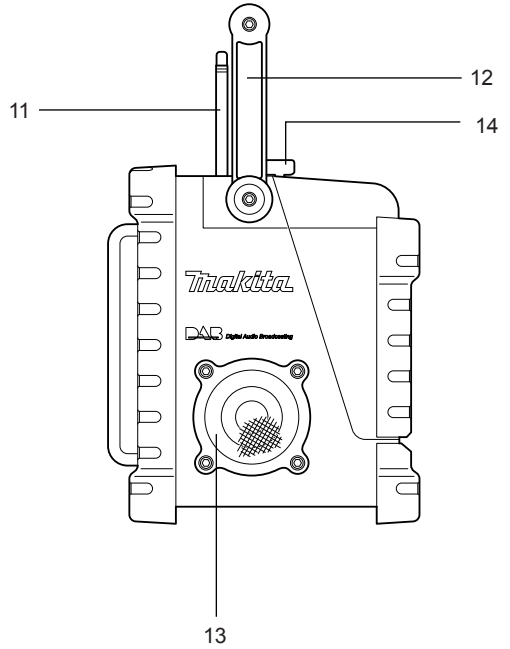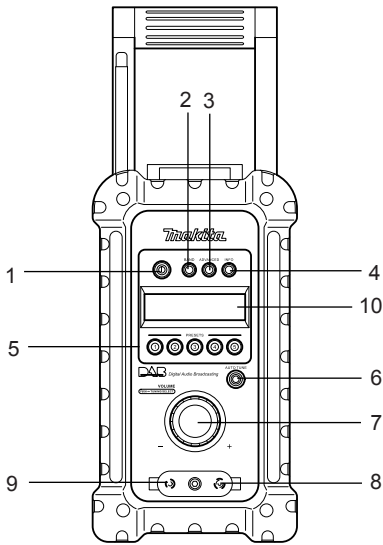
SAVE THESE INSTRUCTIONS.

Features:
• DAB/FM PLL synthesized
• Large LCD display with illumination
• Manual/Preset/Scan tuning
• Rotary tuning and volume control
• Five preset stations each band
• Stereo speaker for rich sound performance
• Ultra rugged design
• Water resistant to JIS 4
Powered by both Makita battery pack and supplied power adaptor.
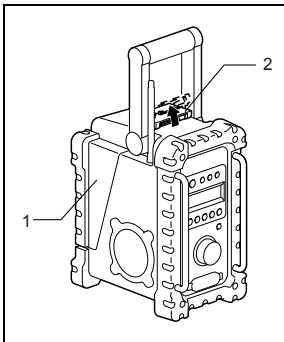
Illustration of General View

Controls:

1. Power button
2. Band button
3. Advanced setting button
4. Info button
5. Preset buttons
6. Auto tune button
7. Volume/Tuning Control/Select knob/button
8. DC IN socket
9. AUX IN1 socket
10. LCD display
11. Soft bended rod antenna
12. Handle
13. Speaker
14. Battery compartment locker
15. AUX IN2 socket
16. Industrial Rechargeable Battery Connect Terminals

Battery Installation

1. Pull out the battery compartment locker to release the battery compartment.

2. Insert the battery pack to power radio. The suitable battery packs for this radio are listed as below.

1. Battery compartment (covering main battery pack and back up batteries)
2. Battery compartment locker

Cluster Battery:

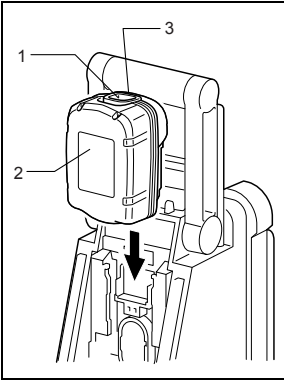|	
9.6V:	9135/9134/9122/PA09/9120
12V:	1235/1234/1222/PA12/1220
14.4V:	1435/1434/1422/PA14/1420
18V:	1835/1834/1822/PA18

Slide Battery:

9.6V:	BH9033/BH9033A/BH9020/BH9020A
12V:	BH1233/BH1233C/BH1220/BH1220C
14.4V:	BH1433/BH1420/BL1430/BL1415
18V:	BL1830/BL1815
24V:	BH2433/BH2420

The following tables indicate the operating time on a single charge.

Battery Capacity	Battery Cartridge - Voltage					Operating time (At Max. Volume)
	9.6V	12V	14.4V	18V	24V	
1.3 Ah	PA09 9120	PA12 1220	PA14 1420 BL1415	PA18 BL1815	–	Approx. 3.5 hour
2.0 Ah	9122 BH9020 BH9020A	1222 BH1220 BH1220C	1422 BH1420	1822	BH2420	Approx. 5.5 hour
2.6 Ah	9134	1234	1434	1834	–	Approx. 7.0 hour
3.0 Ah	9135	1235	1435 BL1430	1835 BL1830	–	Approx. 8.5 hour
3.3 Ah	BH9033 BH9033A	BH1233 BH1233C	BH1433	–	BH2433	Approx. 9.0 hour

Operating time may differ by the type of battery, charging or operating conditions.
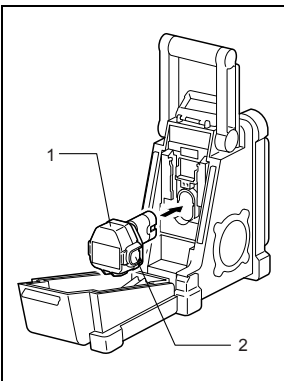
3-1. Installing or removing the Slide battery cartridge

1. Button
2. Battery cartridge
3. Red part

- To insert the battery cartridge, align the tongue on the battery cartridge with the groove in the housing and slip it into the position. Always insert it all the way until it locks in place with a little click. If you can see the red part on the upper side of the button, it is not locked completely. Insert it fully until the red part cannot be seen.
- Do not use force when inserting the battery cartridge. If the cartridge does not slide in easily, it is not being inserted correctly.
- To remove the battery cartridge, withdraw it from the tool while sliding the button on the front of the cartridge.

3-2. Installing or removing the Cluster battery cartridge

1. Battery cartridge
2. Button

- To insert the battery cartridge, align the tongue on the battery cartridge with the groove in the housing and slip it into position. Always insert it all the way until it locks in place with a little click.
- Do not use force when inserting the battery cartridge. If the cartridge does not slide in easily, it is not being inserted correctly.
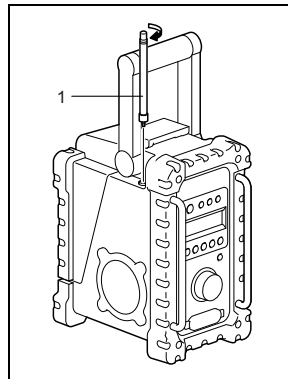
4. To remove the battery cartridge, withdraw it from the Job site radio while pressing the buttons on both sides of the cartridge. Return the battery compartment locker in position to close.

5. Reduced power, distortion and a "stuttering sound" are all the signs that the main battery pack needs to be replaced.

Note:
The battery pack can't be charged via the supplied AC power adaptor.

Installing the Soft bended rod antenna

1. Soft bended rod antenna

Install the Soft bended rod antenna as show in the figure.

Using Supplied AC power adaptor

1. DC IN socket
2. Input terminal (AUX IN1)

Remove the rubber protector and insert the adaptor plug into the DC socket on the front side of the radio. Plug the adaptor into a standard mains socket outlet. Whenever the adaptor is in use, the battery pack is automatically disconnected. The AC adaptor should be disconnected from the main supply when not in use.

Operating the radio

This radio equips with three tuning methods - Scan tuning, Manual tuning and Memory presets recall.

Selecting a station - DAB

1. Press the Power button to switch on your radio.
2. Select the DAB mode by pressing the Band button.
3. Press the Advanced setting button and rotate the Volume/Tuning Control/Select knob/button to scroll through the list of available stations.
4. Press and release the Volume/Tuning Control/Select knob/button to select the station. The display will show "Tuning..." while your radio is finding the new station.
5. Adjust the desired volume setting by rotating the Volume/Tuning Control/Select knob/button.

Display modes - DAB

Your radio has a range of display options in the DAB mode:
1. Press the Info button to cycle through the various options as shown in the following letters. (a. to h.)

a.	Station name	Indicates the station name being listened to.
b.	Program type	Indicates the type of station being listened to e.g. Pop, Classic, News, etc.
c.	Multiplex name	Indicates the name of the DAB multiplex to which the current station belongs.
d.	Time & date	Indicates the current time and date.
e.	Frequency and channel	Indicates the frequency and channel number for the currently tuned DAB station.
f.	Bit rate/Audio type	Indicates the digital audio bit rate and audio type for the currently tuned DAB station.
g.	Signal strength	Indicates the signal strength for the currently tuned DAB station.

Finding new stations - DAB

From time to time, new DAB radio stations may become available. Or you may have moved to a different part of the country. In this case you may need to activate your radio to scan for new stations.
In order that the radio may find the available stations it is recommended to carry out a full scan of the entire DAB Band III frequencies.
1. Press and release the Auto Tune button.
2. Your radio will perform a full scan of the DAB frequencies. As new stations are found, the station counter on the right side in the display will increase and stations will be added to the list.

Manual tuning - DAB

Manual tuning allows you to tune your radio to a particular DAB frequency in Band III. This function can also be used

to assist the positioning of the antenna or the radio so as to optimize reception for a specific channel or frequency.
1. Press the Advanced setting button and rotate the Volume/Tuning Control/Select knob/button until the display shows "Manual tune." Press and release the Volume/Tuning Control/Select knob/button to enter the manual tuning mode.
2. Rotate the Volume/Tuning Control/Select knob/button to select the desired DAB channel. Press and release the Volume/Tuning Control/Select knob/button to tune to the chosen frequency.

Dynamic Range Control (DRC) - DAB

The DRC facility can make quieter sounds easier to hear when your radio is used in a noisy environment.
There are three levels of compression:
DRC 0   No compression applied
DRC 1/2   Medium compression applied
DRC 1   Maximum compression applied
1. Press the Power button to switch on your radio.
2. Press the Band button to select the DAB band.
3. Press the Advanced setting button and rotate the Volume/Tuning Control/Select knob/button until "DRC value" appears on the display. Then press and release the Volume/Tuning Control/Select knob/button. The display will show the current DRC value.
4. Rotate the Volume/Tuning Control/Select knob/button to select the desired DRC setting.
5. Press and release the Volume/Tuning Control/Select knob/button to confirm the setting. The display's condition will return to be normal.

Station order setup - DAB

Your radio has 3 station order settings from which you can choose. The station order settings are alphanumeric, ensemble and valid station.
1. Press and release the Advanced setting button.
2. Rotate the Volume/Tuning Control/Select knob/button until "Station order" appears on the display, then press and release the Volume/Tuning Control/Select knob/ button to enter the setting.

Alphanumeric

Rotate the Volume/Tuning Control/Select knob/button until "Alphanumeric" appears on the display. Your radio will now select stations in alphanumeric order A...Z 0...9.

Ensemble stations

Rotate the Volume/Tuning Control/Select knob/button until "Ensemble" appears on the display. Your radio will now organize the station list by DAB multiplex.

Valid stations

Rotate the Volume/Tuning Control/Select knob/button until "Valid" appears on the display. The display will show only those which signals the radio can find.

Scan Tuning - FM

1. Press and release the Power button to turn on the radio.

2. Select the desired waveband by pressing the Band button. Make sure the soft bended rod antenna has been well placed for best FM reception. Try to avoid operating the radio next to a computer screen and other equipment which will cause interference to the radio.
3. Press and release the Auto Tune button and the radio will search and stop automatically when it finds a radio station. The radio will continue searching for the next available station unless the operator presses the Auto tune button to stop the scanning.
4. Rotate the Volume/Tuning Control/Select knob/button to get the desired sound level. The LCD display will show sound level changes.

Note:
Before operating the Tuning/Volume Control/Select knob/button, press the Tuning/Volume control knob/button to shift from the tuning control mode.

5. To turn off the radio, press and release the Power button.

Manual Tuning - FM
1. Press and release the Power button to turn on the radio.
2. Select the desired waveband by pressing the Band button. Adjust the antenna as described above.
3. A single clockwise rotation of the Tuning/Volume Control/Select knob/button will change the frequency in the following increment:
FM: 50 or 100 kHz

Note:
If the radio is in the volume control status, press and release the Tuning/Volume Control/Select knob/button to shift to the tuning control mode.

4. Keep rotating the Volume/Tuning Control/Select knob/button until the desired frequency is shown on the display.
5. Rotate the Volume/Tuning Control/Select knob/button to get the desired sound level.
6. To turn off the radio, press and release the Power button.

Display modes - FM
Your radio has a range of display options for FM radio mode.
1. Repeat pressing and releasing the Info button to cycle through the different options.

a.	Program station	Indicates the name of the station being listened to.
b.	Radio text	Indicates text messages such as new items, etc.
c.	Program type	Indicates the type of station being listened to such as Pop, Classic, News, etc.
d.	Time & date	Indicates the current time and date.
e.	Frequency	Indicates the frequency of the FM signal.

Storing stations in preset memories (DAB and FM)
There are five memory presets for each waveband.
1. Press and release the Power button to turn on the radio.
2. Tune to the desired station using one of the methods previously described.
3. Press and hold down the desired Preset button until the radio beeps. The preset number will appear in the display and the station will be stored in the selected preset button.
4. Repeat this procedure for the remaining presets.
5. Stations stored in the preset memories can be overwritten by following procedures described above.

Recall stations from the preset memories (DAB and FM)
1. Press and release the Power button to turn on the radio.
2. Select the desired waveband.
3. Press the desired Preset button momentarily, the preset number and station frequency will appear in the display.

Brightness control
The backlight of the display can be adjusted.
1. Press and release the Advanced setting button.
2. Rotate the Volume/Tuning Control/Select knob/button to scroll through the Advanced setting until the display shows "Backlight." Press and release the Volume/Tuning Control/Select knob/button to enter the setting.
3. Rotate the Volume/Tuning Control/Select knob/button to choose for enabling or disabling the backlight function, then press and release the Volume/Tuning Control/Select knob/button to confirm the setting.

System reset
If your radio fails to work correctly, or some digits on the display are missing or incomplete, carry out the following procedure.
1. Press and release the Advanced setting button.
2. Rotate the Volume/Tuning Control/Select knob/button until "Factory reset" appears on the display. Press and release the Volume/Tuning Control/Select knob/button to enter the setting.
3. Rotate the Volume/Tuning Control/Select knob/button to choose "Yes" or "No." Select "Yes" by pressing the Volume/Tuning Control/Select knob/button and a full reset will be performed.

How to play other audios

CAUTION:
Unplug this apparatus before connecting other audios.
• There are the two AUX sockets. The AUX 1 is located on the front panel, and the AUX 2 is located on the battery compartment.
• Connect a stereo or mono source (i.e. iPod, MP3, or CD player) to the AUX IN with an audio cord.

- Repeat pressing and releasing the BAND button until "AU1" or "AU2" is displayed, then the AUX function is activated.

MAINTENANCE

CAUTION
- Never use gasoline, benzene, thinner, alcohol or the like. Discoloration, deformation or cracks may result.

Specifications:

Power Requirements	
AC power adaptor	DC 12V 1A, center pin positive
Battery	Cluster battery: 9.6 - 18V
	Slide battery: 9.6 - 24V
Frequency coverage	FM 87.50 - 108 MHz
Channel block	DAB (Band III): 5A ~ 13F
Circuit feature	
Loudspeaker	3 inches 8 ohm
Output Power	9.6V: 0.8W x 2, 12V: 1.2W x 2
	14.4V: 2W x 2, 18V: 3W x 2
	24V: 5W x 2
Input terminal	3.5 mm dia. (AUX IN1/AUX IN2)
Antenna system	DAB/FM: soft bended rod antenna
Dimensions (W x H x D) in mm	
	263 x 305 x 166
Weight	4.2 kg (without battery)

Makita Corporation
Anjo, Aichi, Japan

www.makita.com