Primare T23 Tuner User Guide

PRIMARE

Copyright and acknowledgments

The information in this guide is believed to be correct as of the date of publication. However, our policy is one of continuous development and so the information is subject to change without notice, and does not represent a commitment on the part of Primare Systems AB.

Primare is a trademark of Primare Systems AB.

Safety compliance

This product has been designed to meet the IEC 60065 international electrical safety standard.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: To reduce the risk of electrical shock do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.

WARNING: To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.

CAUTION: In Canada and the USA, to prevent electric shock, match the wide blade of the plug to the wide slot in the socket and insert the plug fully into the socket.

ATTENTION
RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

The lightning flash with an arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Important safety instructions

This product is designed and manufactured to meet strict quality and safety standards. However, you should be aware of the following installation and operation precautions.

1. Take heed of warnings and instructions
You should read all the safety and operating instructions before operating this appliance. Retain this handbook for future reference and adhere to all warnings in the handbook or on the appliance.

2. Water and moisture
The presence of electricity near water can be dangerous. Do not use the appliance near water – for example next to a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool, etc.

3. Object or liquid entry
Take care that objects do not fall and liquids are not spilled into the enclosure through any openings. Liquid-filled objects such as vases should not be placed on the equipment.

4. Ventilation
Do not place the equipment on a bed, sofa, rug or similar soft surface, or in an enclosed bookcase or cabinet, since ventilation may be impeded. We recommend a minimum distance of 50mm around the sides and top of the appliance to provide adequate ventilation.

5. Heat
Locate the appliance away from naked flames or heat producing equipment such as radiators, stoves or other appliances (including other amplifiers) that produce heat.

6. Climate
The appliance has been designed for use in moderate climates.

7. Racks and stands
Only use a rack or stand that is recommended for use with audio equipment. If the equipment is on a portable rack it should be moved with great care, to avoid overturning the combination.

8. Cleaning
Unplug the unit from the mains supply before cleaning.

The case should normally only require a wipe with a soft, damp, lint-free cloth. Do not use paint thinners or other chemical solvents for cleaning.

We do not advise the use of furniture cleaning sprays or polishes as they can cause indelible white marks if the unit is subsequently wiped with a damp cloth.

9. Power sources
Only connect the appliance to a power supply of the type described in the operating instructions or as marked on the appliance.

This is a Class 1 device and **must** be earthed.

10. Power-cord protection
Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, and the point where they exit from the appliance.

11. Grounding
Ensure that the grounding means of the appliance is not defeated.

12. Power lines
Locate any outdoor antenna/aerial away from power lines.

13. Non-use periods
If the unit has a stand-by function, a small amount of current will continue to flow into the equipment in this mode. Unplug the power cord of the appliance from the outlet if left unused for a long period of time.

14. Abnormal smell
If an abnormal smell or smoke is detected from the appliance, turn the power off immediately and unplug the unit from the wall outlet. Contact your dealer immediately.

15. Servicing
You should not attempt to service the appliance beyond that described in this handbook. All other servicing should be referred to qualified service personnel.
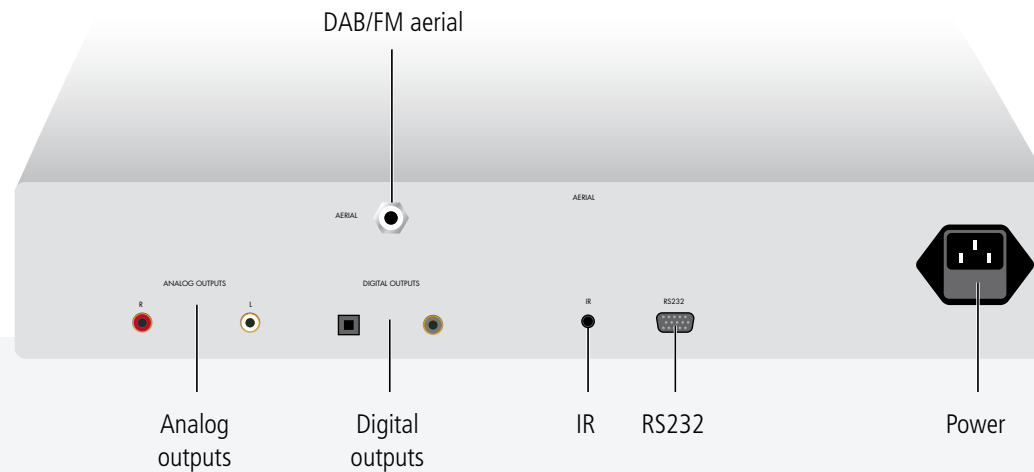
16. Damage requiring service
The appliance should be serviced by qualified service personnel when:

A. the power-supply cord or the plug has been damaged, or
B. objects have fallen, or liquid has spilled into the appliance, or
C. the appliance has been exposed to rain, or
D. the appliance does not appear to operate normally or exhibits a marked change in performance, or
E. the appliance has been dropped or the enclosure damaged.

Welcome

DAB/FM aerial

AERIAL   AERIAL

ANALOG OUTPUTS   DIGITAL OUTPUTS

R   L   IR   RS232

Analog outputs   Digital outputs   IR   RS232   Power

1 Unpack the T23

Your T23 is supplied with the following components:

- Mains cable.
- C22 remote control.
- Two batteries for the remote control.

If any of these items are missing please contact your supplier. We recommend you retain the packaging in case you need to transport the unit at a later date.

2 Connect to a preamplifier

Analogue outputs

The T23 is designed to be connected to the line input of a preamplifier.

Connect the ANALOG OUTPUTS to a suitable line input using a pair of analogue RCA leads.

Digital outputs

The T23 also provides both optical and coax digital outputs, to allow you to connect the T23 to a digital surround processor or digital preamplifier with digital inputs, or record from the T23 to a digital recorder. The T23 includes an analogue to digital converter, so FM is also available on the digital output.

Connect using an optical cable or coax digital cable as appropriate.

3 Connect an aerial

The T23 includes a combined FM/DAB (Digital Audio Broadcasting) radio receiver, and to receive stations on either of the DAB or FM wavebands you need to connect a suitable aerial to the aerial connector on the back panel. The FM/DAB aerial connector is an F-type screw connector.

Connect the aerial by pushing the pin into the hole in the center of the connector, then screwing the sleeve onto the outside. For more information about connecting and positioning the aerial for best reception see *Using the radio*, page 7.

4 Connect power

- Plug one end of the mains cable supplied with the T23 into the power connector on the back panel, and connect the other end to a wall socket.

If this cable is not suitable for your power outlets please contact your supplier for an alternative cable.

⚠ **WARNING:** Always disconnect the T23 from the mains power before connecting or disconnecting any cables.

- Switch on the T23, using the switch under the right-hand end of the front panel.

The standby indicator will light up on the front panel.

5 Tune to a DAB station

- Press **DAB** on the front panel, or **TUNER** on the remote control, until the display shows:

`DAB`

The first time you select the DAB receiver it scans for stations, and the display will show:
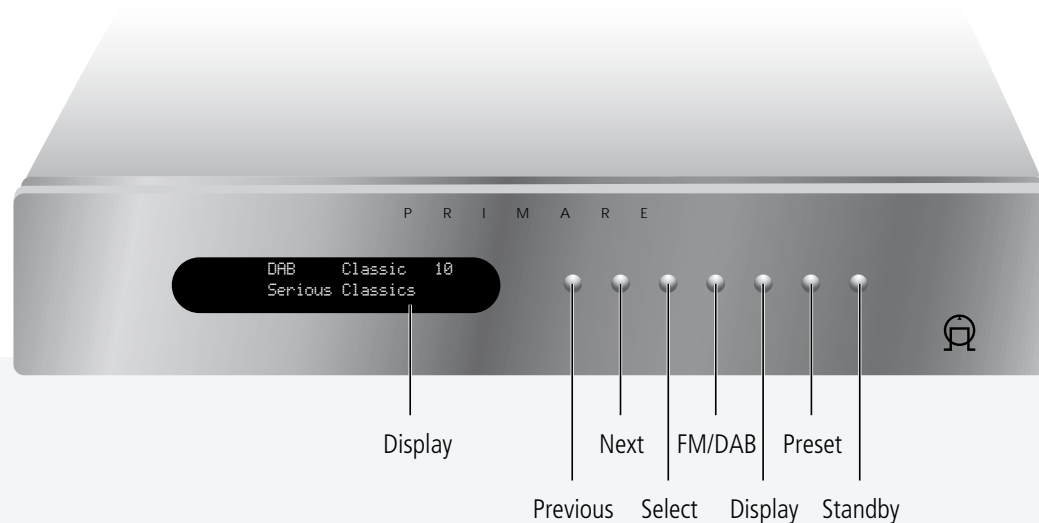
`DAB autoscan full...`

with a progress bar showing the progress of the scan and the number of stations found.

The tuner will then select the first station found, in alphabetical order.

Using the T23

This page explains how to operate your T23, with an explanation of the function of each of the front panel controls.

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```
DAB     Classic  10
Serious Classics
```

Display

Previous · Next · Select · FM/DAB · Display · Preset · Standby

Front panel controls

Previous ▼

In tune mode displays the previous station (DAB) or tunes down manually (FM). In preset mode selects the previous preset.

Next ▲

In tune mode displays the next station (DAB) or tunes up manually (FM). In preset mode selects the next preset.

Select ↵

Selects the displayed DAB station.

FM/DAB DAB

Switches between FM and DAB.

Display i

Changes the displayed information.

Preset mode ⌒

Switches the function of the ▲ and ▼ keys between tune mode and preset mode.

Standby ⏻

Press to put the T23 into standby. The display shows:

```
−OFF−
```

Press again to switch the T23 on.

Listening to DAB radio

To select the DAB tuner

● Press **DAB** on the front panel, or **TUNER** on the remote control, until the display shows:

```
DAB
```

When you first select the DAB tuner, the tuner scans to locate all the stations in your neighbourhood, and the display shows:

```
DAB autoscan full...
```

with a progress bar showing the number of stations found.

For more information see *DAB*, page 5.

Listening to FM radio

To select the FM tuner

● Press **DAB** on the front panel, or **TUNER** on the remote control, until the display shows:

```
FM
```

For more information see *FM*, page 5.

Changing the display

The T23 allows you to adjust the display brightness between four options: off, dim, medium, or bright.
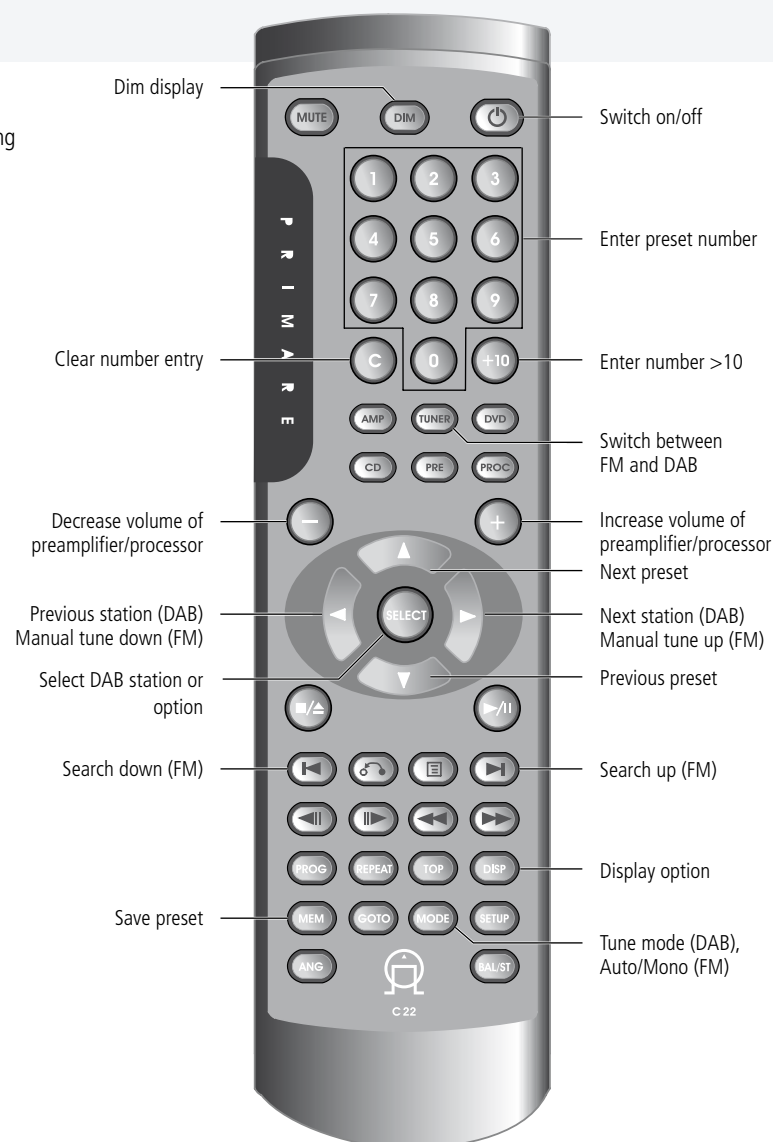
● Press **DIM** on the remote control to step between the options.

If you turn the display off, it will light up for a short time each time you change a setting.

Using the remote control

This page explains how to use the C22 remote control to operate the T23, and how to fit the batteries into the remote control.
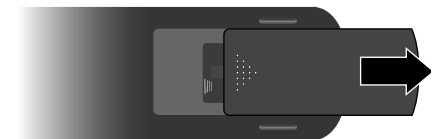
You can operate all the functions of the T23 using the C22 remote control:

Dim display

MUTE   DIM   (power)   Switch on/off

1 2 3

4 5 6   Enter preset number

7 8 9

Clear number entry   C 0 +10   Enter number >10

AMP TUNER DVD

CD PRE PROC   Switch between FM and DAB

Decrease volume of preamplifier/processor   −   +   Increase volume of preamplifier/processor

▲   Next preset

Previous station (DAB) Manual tune down (FM)   ◄ SELECT ►   Next station (DAB) Manual tune up (FM)

Select DAB station or option   ▼   Previous preset

■/▲   ►/II

Search down (FM)   I◄ ↻ ▤ ►I   Search up (FM)

◄II II► ◄◄ ►►

PROG REPEAT TOP DISP   Display option

Save preset   MEM GOTO MODE SETUP

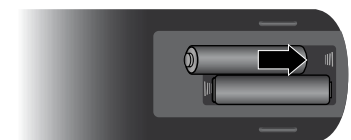ANG   (logo)   BAL/ST   Tune mode (DAB), Auto/Mono (FM)

C 22

Fitting the batteries

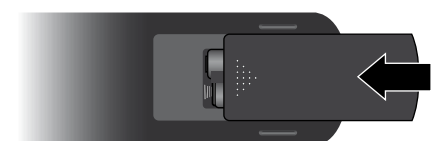Before using the remote control you need to insert the two AAA batteries supplied with the C22.

● Gently slide open the cover on the back of the remote control:

● Insert the two batteries, observing the polarity printed on the bottom of battery compartment:

● Slide back the cover until it clips into place:

⚠ **Note:** Replace only with alkaline batteries type AAA, LR03, or equivalent. Dispose of old batteries considerately.

This page gives information about using DAB and FM, including scanning for stations, stepping between stations, and defining presets.

DAB

The DAB tuner covers the main Digital Audio Broadcasting bands, Band III (174-240MHz) and L-Band (1452-1492MHz).

DAB broadcasts provide the benefits of a wide choice of stations, high-quality digital audio (depending on the station), and a range of associated text information.

The display shows the name of the station on the first line and the genre on the second line. For example:

```
Classic FM
Serious Classics
```

To select a station by name

● Press ▲ or ▼ on the front panel, or ▶ or ◀ on the remote control, to step through the stations in alphabetical order.

The second line of the display shows each station name; for example:

```
Classic FM
```

● Press ↵ on the front panel or **SELECT** on the remote control to select the station.

To tune manually

● Press **MODE** on the remote control. The display shows:

```
< Manual tune >>
```

● Press **SELECT** to select Manual tune.

You can then step between the predefined DAB frequencies using ◀ and ▶ on the remote control.

At each step the display shows the channel number and frequency; for example:

```
12B   225.64MHz
```

When you have displayed the channel you want to select:

● Press **SELECT** to select it.

The display shows the frequency and signal quality (SQ) for the channel, between 0 and 100 (maximum); for example:

```
225.648  SQ:  64
```

● Press **SELECT** to tune the T23 to that channel.

The display shows:

```
NOW TUNING...
```

It will then start playing.

To perform an autoscan

You may wish to autoscan periodically to locate new stations.

● Press **MODE** on the remote control. The display shows:

```
< Manual tune >>
```

● Press ▶ to select Autoscan local or Autoscan full.

Autoscan local rescans the current suite of stations.

Autoscan full rescans the entire waveband to find any new stations.

● Press **SELECT** to start scanning.

A progress bar shows the progress of the scan, together with the number of stations found.

The tuner then selects the first station found in alphabetical order.

To change the text display

● Press **i** on the front panel or **DISP** on the remote control.

The display steps between the following options:

- Genre
- Station name
- Time and date
- Channel and frequency
- Bit rate and stereo/mono
- Blank
- Scrolling text display
- Signal meter
- Quality meter

FM

The FM tuner covers the FM Waveband, 87.5-108MHZ. It includes RDS (Radio Data System) to display text associated with many FM stations.

To scan for a station

● Press ▶I on the remote control to scan up in frequency or I◀ to scan down in frequency.

The FM tuner will stop when it finds a station.

To tune manually

● Press ▲ or ▼ on the front panel, or ▶ or ◀ on the remote control.

The display shows the current frequency; for example:

```
89.10MHz
```

To select mono

You can reduce the noise on weak stations by selecting mono mode.

● Press the **MODE** button to switch between AUTO, which automatically selects stereo for strong signals, or MONO.

To change the text display

● Press **i** on the front panel or **DISP** on the remote control.

The display steps between the following options:

- Programme type
- Radio text
- Clock time
- Blank
- Frequency and mono/stereo

Using presets (DAB or FM)

You can define up to 10 preset stations on DAB and 40 preset stations on FM.

To save the current station as a preset

● Press **MEM** on the remote control.

The display shows the last preset number you used, and the station name or frequency; for example:

```
DAB P04 Classic 10
    Save?
```

● Press ▲ or ▼ on the remote control to select a preset number, or type the preset number on the remote control, and press **MEM** or **SELECT** to save it.

To select a preset using the remote control

● Press ▲ or ▼ to display the preset number, or type the preset number on the remote control pressing **+10** first to enter a number greater than 10.

After a short delay the preset will be selected.

To select a preset using the front panel

● Press ↻ to switch to preset mode.

● Press ▲ or ▼ to step between presets.

To delete a preset (FM only)

When listening to the preset:

● Hold down **C** on the remote until the display shows:

```
Delete?
```

● Press **SELECT** to delete the preset.

Analogue output

RCA connector, 2.5V RMS, 100Ω.

Digital outputs

Optical output: TOSlink connector.

Coax output: SPDIF (RCA connector), 75Ω.

PCM Sample Rate 48kHz.

DAB receiver

Tuning range: Band III 174-240MHz, L-Band 1452-1492MHz

Usable sensitivity: Band III 29dBuV, L-Band 30dBuV.

Number of presets: 10

FM tuner

Frequency range: 87.5-108MHz

Usable sensitivity: FM Mono 10dBuV, FM stereo 20dBuV

Number of presets: 40

Antenna: 50Ω

General

Supply voltage: 100/120 or 230V AC (must be set internally).

Power consumption: Standby 14W, operational 16W.

Size: 430 x 385 x 106mm (WxDxH)

Weight: 7.5kg

Performing a factory reset

If the T23 is moved to another location you may need to clear the DAB memory and presets in order to receive any new local stations. In this case perform a factory reset as follows:

● Switch the T23 to standby.

● While holding down the ▼ button press **STANDBY** until the display shows:

```
Set Factory Default?
1:FM  2:DAB 3:FM+DAB
```

● Using the remote control press **1** to use FM only, **2** to use DAB only, or **3** to use FM and DAB.

The display will confirm that a factory reset has been performed.

WARNING: This will delete all the DAB and FM presets and settings.

IR input

The T23 normally receives remote control commands from an infra-red eye on the front panel. If you want to control the T23 remotely you can connect the IR socket on the back panel to an infra-red eye or multi-room system infra-red output.

To enable the IR socket

● Turn on the main power switch while holding down the **i** button on the front panel.

The display will show:

```
BACK IR
```

RS232

The RS232 connector allows your dealer to upgrade the firmware on your T23, or control the T23 as part of a multi-room system. Do not connect anything to this socket unless instructed by your dealer.

Connecting an aerial

The type of aerial you need for DAB and/or FM reception depends on the quality of the signal in your area and your listening preferences.

For best results from both DAB and FM reception you will need separate DAB and FM aerials, with an aerial combiner to combine the signals from both aerials into the connector on the back panel of the T23.

DAB

In an area with good reception you should get good results with a simple dipole aerial, with two elements or wires arranged in a T. The aerial should be mounted with the elements pointing vertically as the transmissions are vertically polarised.

FM

In an area of strong FM reception a dipole aerial should also give good results with FM. Arrange the elements horizontally as FM receptions are horizontally polarised.

In an area of poor reception you will need a roof or loft mounted FM aerial; contact your local dealer for information and advice.

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