▶ # Primare T22 Tuner User Guide

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Part number: T22/1

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POWER CONNECTION

Warning: Before connecting power check that the required supply voltage, indicated on the back panel, corresponds to your local AC supply. If a different voltage is stated on the type plate do not connect the amplifier to the mains power, and seek advice from your dealer.

Connect the mains power using the enclosed mains cable.

Note: Always disconnect the amplifier from the mains power before connecting or disconnecting any of the cables.

Safety instructions: To prevent fire or shock hazard, do not expose this appliance to dripping or splashing. No objects filled with liquids, such as vases, should be placed on the unit.

If you want to build in the unit you need to be sure to allow space of at least 20cm behind, 10cm on both sides and 30cm above the top panel of the unit. This is to prevent fire or damage caused by overheating. Also make sure that the main switch is accessible.

Warning: Dangerous voltages inside. Do not open the cabinet. There are no user serviceable parts inside. Repairs should be carried out by qualified service personnel only.

FCC Warning: This equipment generates and can radiate radio frequency energy and if not installed and used correctly in accordance with our instructions may cause interference to radio communications or radio and television reception. It has been type-tested and complies with the limits set out in Subpart J, Part 15 of FCC rules for a Class B computing device. These limits are intended to provide reasonable protection against such interference in home installations.

EEC: This product has been designed and type-tested to comply with the limits set out in EN55013 and EN55020.

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▶ Introduction

> **Welcome to the Primare T22 Tuner! This chapter introduces you to its key features, and explains how you can use them to achieve superb sound quality from your FM reception.**

WELCOME TO THE T22 TUNER

The T22 is an advanced tuner for sophisticated systems that provides Primare performance and build quality with an intuitive user interface. Every component of the T22 Tuner has been designed to achieve the highest possible audio performance.

Enjoy FM reception at its best
The T22 Tuner uses Primare's proven design approach to guarantee the highest quality sound across the entire FM bandwidth. With a good aerial, FM broadcasts should give you close to CD quality sound.

Provides the latest Radio Data System features
The Primare T22 also provides all the benefits of the Radio Data System or RDS, to display the station name, program type, and text information from the tuned station.

No compromise power supply for the highest possible performance
The T22 has three separate, regulated power supplies for ultra-low noise operation. The result is extremely high signal to noise ratio, allowing you to take full advantage of the dynamic range available from FM broadcasts.

Careful design for mechanical stability
As with all Primare units, the T22 Tuner is housed in an alloy, heavy gauge steel chassis, which provides strength, rigidity, and screening, while being effective at damping vibrations from external sources. The front panel design isolates the display circuitry from the audio circuitry to avoid interference.

Intuitive user interface
In keeping with the philosophy of the Primare range of systems, the T22 can be controlled through a very simple and intuitive interface, designed so that it will not distract you from the pleasure of listening to music on your system.

In fact most of the features of the T22 can be accessed through just seven front panel push buttons. Alternatively, some of the functions of the T22 can be controlled by the optional C22 or C32 Remote Control, along with the other Primare components in your system.

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USING THE T22 TUNER WITH OTHER PRIMARE PRODUCTS

Although the T22 Tuner is flexible enough to work with virtually any other equipment you have in your system, it is ideally suited to use with the Primare I30 Integrated Amplifier. A particular benefit of using the T22 with a Primare preamplifer is that you can control your entire system with a single remote control, to give you a fully integrated system with the simplest possible user interface.

TECHNICAL SPECIFICATION

Tuning range (50kHz steps)		87.5 – 108.0MHz
Tuning range Japan (50kHz steps)		75.5 – 90.5MHz
Usable sensitivity:	Mono	1.8μV, 75Ω, DIN
	Stereo	36μV, 75Ω, DIN
Capture ratio		1.5dB
Image rejection ratio		80dB
IF Rejection Ratio		90dB
Signal-to-noise ratio:	Mono	70dB
	Stereo	65dB
Alternate channel attenuation		60dB, IHF
AM suppression ratio		50dB
Subcarrier product rejection		60dB
THD:	Mono	0.1% (Wide)
	Stereo	0.2% (Wide)

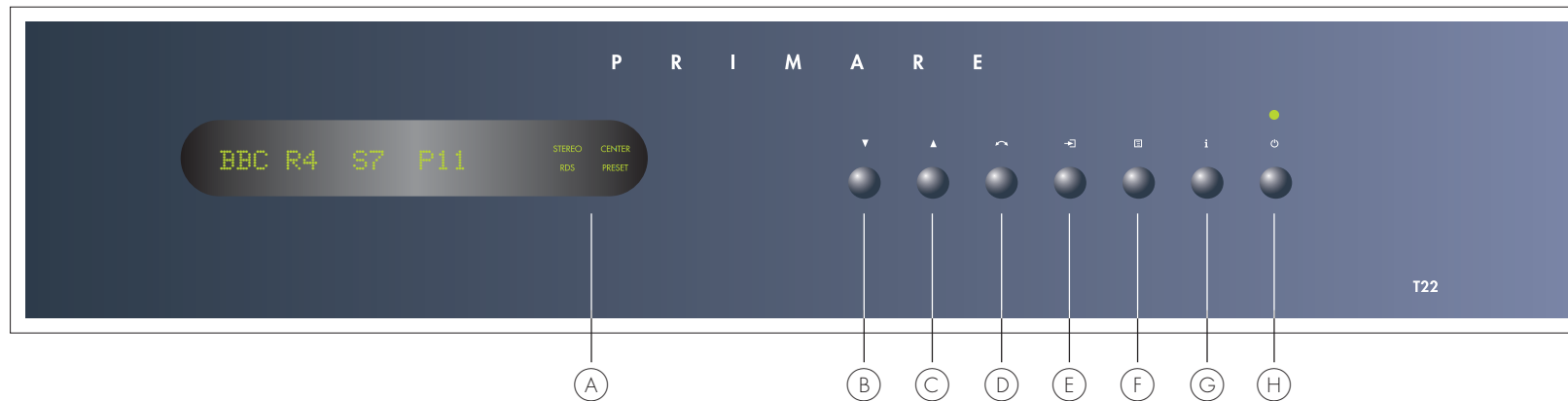|	
Frequency response	30Hz – 15kHz, ±1.5dB
Stereo separation	40dB at 1kHz (Wide)
	40dB at 70Hz – 10kHz
Output voltage	0.775V
Output impedance	10kΩ
Muting level	17.2dBf, 2μV, 75Ω
Antenna impedance	75Ω
Functions:	
Antenna inputs	1
IF Narrow/Wide, RDS, Stereo/Mono	

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Using the T22 Tuner

This chapter explains how to operate the T22 Tuner, using either the front panel push button controls or the C22/C32 Remote Control.

FRONT PANEL CONTROLS

The main functions of the T22 Tuner can be accessed using the seven front panel push buttons, and information about its operation is displayed on the front panel's display:

(A) Display indicators.

(B) The ▼ button scans or steps down in frequency or preset station.

(C) The ▲ button scans or steps up in frequency or preset station.

(D) The ⌢ button switches the T22 between Preset and Tune mode.

(E) The ⇥ button stores a chosen frequency to memory.

(F) The ▣ button toggles between IF, BLEND, and MUTE status.

(G) The **i** button steps through the various display settings.

(H) The ⏻ button switches the T22 to standby, or brings it out of standby.

P R I M A R E

BBC R4 S7 P11   STEREO   CENTER
                   RDS   PRESET

T22

(A)   (B) (C) (D) (E) (F) (G) (H)

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SWITCHING ON AND OFF

To switch on

• Use the switch under the left-hand edge of the front panel.

During normal operation you can leave the T22 switched on and in standby mode.
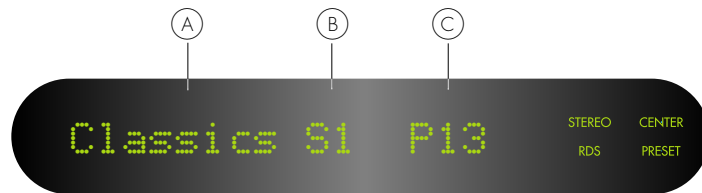
To switch to standby

• Press the ⏻ button on the front panel.

To switch on from standby

• Press the ⏻ button on the front panel, or the **CH▲** or **CH▼** button on the C22/C32 Remote Control.

FRONT PANEL DISPLAY

The display on the front of the T22 Tuner is controlled by the **i** button and allows you to see various details about the broadcast:

Ⓐ Station name or frequency.   Ⓒ Preset number (if assigned).

Ⓑ Signal strength.

Each time you press the **i** button, the display will step between the following options:

Display option	Example
Station Name	`Classics S8    P11`
RadioTEXT	`The Easter Story`
Frequency	`93.300M S8    P11`

TUNING TO A STATION

When the **PRESET** indicator is off you can use the ▲ and ▼ buttons to engage scan or manual tuning up and down the frequency band.

To enter Tune mode

• Press the ⌢ button until the **PRESET** indicator turns off.

To scan tune

• Press the ▲ or ▼ button for more than one second and then release it.

The tuner will scan for the first strong signal from a radio station and stop.

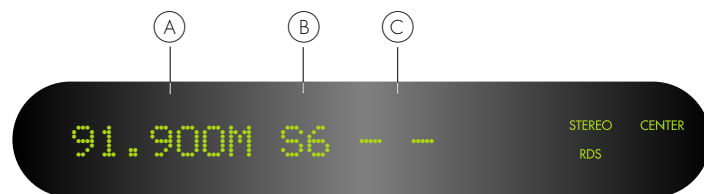• Press and hold either the ▲ or ▼ button again to continue searching.

To manually tune

• Press the ▲ or ▼ button briefly.

With each successive press of the ▲ or ▼ button, the T22 will tune in 0.05MHz steps, allowing you to tune manually to a precise frequency.

④

While you are searching for a specific frequency the front panel display shows the frequency and signal strength (from 0-9):

Ⓐ   Ⓑ   Ⓒ

```
91.900M S6 ▬ ▬          STEREO    CENTER
                           RDS
```

Ⓐ Station frequency.   Ⓒ Preset number (if assigned).

Ⓑ Signal strength.

In addition to the display there are three tuning indicators:

• The **STEREO** indicator lights up when the T22 is receiving a stereo broadcast.

• The **CENTER** indicator lights up when the T22 is tuned to the exact frequency of the transmitter.

• The **RDS** indicator lights up when a station broadcasting RDS data is received.

SELECTING A PRESET STATION

When the **PRESET** indicator is lit you can use the ▲ and ▼ buttons to search through your stored stations.

To enter Preset mode

• Press the ⌢ button until the **PRESET** indicator lights up.

To store a station as a preset

The Primare T22 Tuner allows you to store up to 30 preset stations, named **P 1** to **P30**, so that you can select them immediately from the front panel or C22/C32 Remote Control.

• Tune to the radio station you wish to enter as a preset.

• Press the ➔] button on the front panel.

The display will indicate the next available preset number by flashing digits, eg **P12**.

To use the suggested preset number press the ➔] button again.

The station will now be stored with that number and the preset digits will stop flashing.

If you want to allocate a different preset number:

• Press the ▲ or ▼ button until the desired preset number appears flashing in the display.

• Press the ➔] button a second time.

⑤

The station will be stored with that preset number.
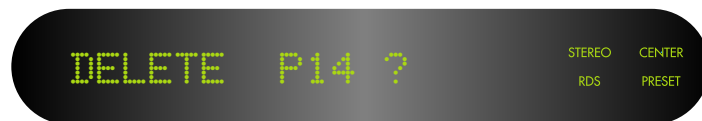
To select a preset station

- Select Preset mode by pressing the ⌢ button so that the **PRESET** indicator lights up.

- Press the ▲ or ▼ buttons on the front panel, or the **CH▲** or **CH▼** keys on the C22/C32 Remote Control, to search for the desired preset.

The preset number will be shown on the display.

To remove a preset station

- Select the preset station you want to remove.

- Press the ⇥ button followed by the ⌢ button.

The display will show:

```
DELETE  P14 ?        STEREO   CENTER
                     RDS      PRESET
```

- Press the ⇥ button again within three seconds.

The selected preset will be deleted.

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▶ Advanced use

This chapter explains how to use the more advanced features of the T22 Tuner, which you can access from the front panel buttons.

RDS DATA DISPLAY

RDS, or Radio Data System, is a system which allows stations to transmit useful text information along with their broadcasts. It typically includes the station name, programme content type, and descriptive text called RadioTEXT.

If the station you have tuned to transmits RDS data, your T22 Tuner will automatically show the station name (limited to eight characters) in place of the frequency:

CLASSICS S7   P 6   STEREO   CENTER
                       RDS   PRESET

Other RDS information, known as RadioTEXT, can also be received by the T22 Tuner. This might include useful information about the presenter, station or programme you are listening to. For example, BBC Radio 1's RadioTEXT gives information about the presenter and programme, eg Steve Lamacq - Lamacq Live etc.

To view RadioTEXT

• Press the **i** button on the front panel.

The display will now show **RadioTEXT** if the station tuned to supports this.

Pressing **i** again returns the display to the RDS station name and frequency or the manually entered name.

If the station is not transmitting RDS data, then just the station frequency will be shown. However the T22 Tuner also allows you to enter a station name to make it easier to identify which station is stored in the memory preset.

To manually store a station name

The Primare T22 Tuner allows you to enter a station name (up to eight characters) to make it easier to identify which station is stored in the memory preset.

• Select the preset station that you want to name.

• Press the ➔] button on the front panel.

The display will change to show the preset number flashing.

• Press the **i** button.

⑦

The first position on the 16-character display will flash.

• Use the ▲ or ▼ button to select the first character.

This steps through the available characters in the sequence: 0–9, punctuation, A–Z, and a–z.

When you have selected the character:

• Press the ➔] button to move the cursor to the next character position.

When the station name is complete:

• Press the ➔] button to store the completed name.

Storing a station name overrides the RDS station name, if there is one. To display the RDS name, delete the stored name as described below.

To delete a stored name

• Press the ➔] button.

The display will change so that the preset number is flashing eg **P14**.

• Press the **i** button.

• Press the ➔] button again to delete the name.

ADJUSTING THE IF/BLEND

The Primare T22 Tuner allows you to adjust the Intermediate Frequency (IF) control and the Blend mode of the tuner.

Adjusting the IF mode enables you to choose between two IF settings: wide and narrow. For the best possible quality sound with strong signals select **IF WIDE**. To remove interference between stations that are very close to each other in frequency select **IF NARROW**.

Adjusting the BLEND mode enables you to choose between two BLEND settings: ON and OFF. You can reduce noise and hiss on remote or weak stations by choosing **BLEND ON**. However, this will be at the expense of reduced stereo separation, so for strong signals choose **BLEND OFF**.

To adjust the Intermediate Frequency

• Press the ▣ button on the front panel.

The display will show the current IF status; for example:

IF NARROW   STEREO   CENTER
                             RDS   PRESET

• Press the ▲ or ▼ button to change between **IF WIDE** and **IF NARROW**.

To adjust the Blend

• Press the ▣ button on the front panel twice.

The display will show the current blend setting; for example:

BLEND OFF   STEREO CENTER
             RDS   PRESET

• Press the ▲ or ▼ button to choose between **BLEND ON** and **BLEND OFF**.

ADJUSTING THE MUTE MODE

The Primare T22 Tuner allows you to switch between Stereo mode with Muting (Mute on) and Mono mode with Muting off (Mute off). Muting suppresses stations that have too weak a signal to be received well. With Muting switched off, even very weak signals may be heard. As these will be too weak for stereo reception, Mono is activated automatically.

To change the Mute mode

• Press the ▣ button on the front panel three times.

The display will show the current mute mode; for example:

MUTE ON STEREO   STEREO CENTER
                   RDS   PRESET

• Press the ▲ or ▼ button to choose between **MUTE OFF MONO** and **MUTE ON STEREO**.

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▶ Advanced use

▶ Connecting the T22 Tuner

This chapter explains how to connect the T22 Tuner to other components in your system, using the connections on the back panel.

BACK PANEL CONNECTIONS

ANTENNA

LINE OUT

L   R

(A)   (B)   (C)

(A) Antenna connection.

(B) Analogue audio outputs.

(C) Mains power input.

ANTENNA CONNECTION

For FM reception a suitable VHF antenna or VHF cable signal should be connected to the socket marked Antenna. You are advised to use a high-quality, low-loss coaxial cable. Cables which have a solid screen will give superior performance.

AUDIO OUTPUTS

The T22 provides stereo phono connections for connection to a conventional stereo amplifier.

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