

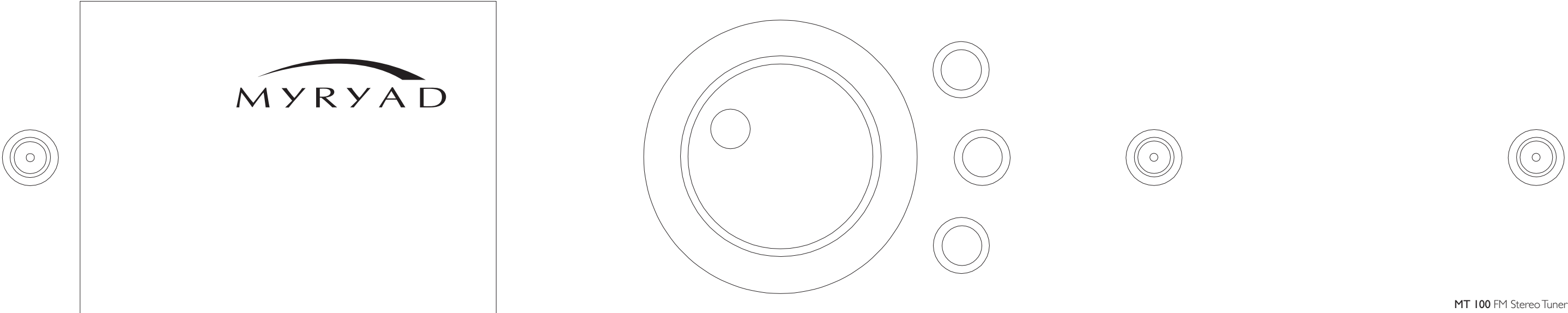
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MT 100

FM Stereo Tuner

Owner’s manual



MT 100 FM Stereo Tuner

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INTRODUCTION

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The Myryad MT 100 FM Stereo Tuner has been designed to offer a combination of high quality sound reproduction, ease of use and elegant styling in keeping with other Myryad products.

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The MT 100 is a full-function remote-controllable FM Stereo Tuner. It has fixed-level low-impedance audio outputs to feed a Myryad integrated amplifier or preamplifier – or other high quality amplifier. A coaxial antenna socket is provided for a 75Ω FM radio (Band 2) antenna. In addition the MT 100 has a “My-Link” control input and output for communication with other Myryad products.

The MT 100 offers a range of expansion possibilities:

• The MT 100 can be remote-controlled using the Myryad System Remote handset.

• The “My-Link” input can be connected to a Myryad integrated amplifier or pre-amplifier so that the MT 100 will automatically be switched on or off when the amplifier is switched on or off.

• The “My-Link” input/output can be coupled to other Myryad products, which can then be remote-controlled via the MT 100's infra-red receiver – or vice-versa.

INSTALLATION AND SAFETY NOTES

This Tuner generates very little heat but still requires some ventilation. Do not place it on a rug or other soft surface into which it could sink, obstructing the air inlets in its underside. Do not allow any obstruction to the ventilation slots in the rear panel. The Tuner should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided.

CAUTION: TO PREVENT A FIRE OR SHOCK HAZARD, DO NOT PERMIT THIS PRODUCT TO BECOME WET. IF LIQUID IS ACCIDENTALLY SPILLED ON IT, IMMEDIATELY SHUT OFF ITS POWER AT THE WALL SOCKET AND UNPLUG THE AC POWER CORD. ALLOW SUFFICIENT TIME FOR COMPLETE EVAPORATION TO OCCUR BEFORE OPERATING THE UNIT AGAIN. IF THE LIQUID IS ANYTHING BUT WATER AND/OR ALCOHOL, THE UNIT SHOULD BE EXAMINED BY A QUALIFIED SERVICE TECHNICIAN BEFORE IT IS USED AGAIN.

Do not remove the cover, or attempt to modify or repair the Tuner yourself. Refer all servicing to a qualified technician.

NOTE REGARDING MICROPROCESSOR CONTROLLED EQUIPMENT:

ALL MYRYAD M-SERIES PRODUCTS ARE CONTROLLED BY A MICROPROCESSOR LOCATED BETWEEN THE FASCIA AND SUB-FASCIA. THESE PROCESSORS RUN WHENEVER THE UNIT IS TURNED ON AT THE REAR PANEL. LIKE ALL MICROPROCESSORS, THOSE USED IN MYRYAD EQUIPMENT ARE SENSITIVE TO CHANGES IN SUPPLY VOLTAGE. IN PARTICULAR, WHEN THE UNIT IS TURNED OFF AT THE REAR PANEL SWITCH, THE PROCESSOR MUST BE GIVEN TIME TO RESET BEFORE THE UNIT IS TURNED BACK ON. GENERALLY 60 SECONDS IS SUFFICIENT. FAILURE TO ALLOW TIME FOR THE PROCESSOR TO RESET MAY RESULT IN INCORRECT PROCESSOR OPERATION. SYMPTOMS OF THIS MIGHT INCLUDE:

- **BUTTONS THAT FAIL TO WORK.**
- **UNEXPECTED ACTIONS ETC.**

THIS IS COMMON TO ALL MICROPROCESSOR CONTROLLED EQUIPMENT BUT CAN BE AVOIDED BY TAKING THE FOLLOWING STEPS:

- **MYRYAD UNITS ARE DESIGNED TO BE LEFT IN STANDBY FOR LONG PERIODS – YOU DON’T NEED TO TURN THEM OFF AT THE BACK PANEL UNLESS YOU EXPECT THEM TO BE UNUSED FOR EXTENDED PERIODS OF TIME.**
- **IF YOU TURN YOUR UNIT OFF AT THE REAR PANEL, ALLOW 60 SECONDS TO ELAPSE BEFORE TURNING IT BACK ON.**
- **IF PROBLEMS DO OCCUR, TURN OFF YOUR UNIT AND LEAVE IT TO STAND FOR AT LEAST 60 SECONDS. IF THE PROBLEMS RECUR WHEN YOU TURN THE UNIT BACK ON, CONTACT YOUR DEALER.**

ACCESSORIES

Your MT 100 is supplied complete with the following accessories:

• Separate mains power cord to suit country of sale.

• Wire antenna (300Ω) suitable for high signal strength areas.

• Balun (matching adaptor) to allow connection of the 300Ω antenna.

• Balun interface connector where necessary (not all countries).

• System Remote.

SETTING UP YOUR SYSTEM

REAR PANEL CONNECTIONS

1 Power inlet

Before making any connection, check that the mains voltage setting printed on the rear panel is the same as your local mains supply.

Plug the female (socket) end of the power cord into the power inlet on the rear of the Tuner. Plug the male (plug) end of the cord into a “live” wall socket or a suitable heavy duty extension cable.

UK version: The mains plug is supplied fitted with a 5A fuse. It should only be replaced with a fuse of the same rating (5A) which complies with BS1362.

Plug wiring instructions: The wires in this mains lead are coloured in accordance with the following code:

- blue – neutral
- brown – live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- The wire that is coloured blue must be connected to the terminal that is marked with the letter N or coloured black.
- The wire that is coloured brown must be connected to the terminal that is marked with the letter L or coloured red.

No connection should be made to the earth terminal of a three-pin plug (marked with the letter E or coloured green or green and yellow).

2 Power switch

Press one side of this rocker switch (the side nearer the edge of the rear panel) to switch the Tuner ON and the other side (towards the antenna socket) to switch it OFF. When the POWER switch is in the OFF position all power is disconnected from the Tuner. In this condition the Tuner cannot be powered up from the front panel or the remote control. When the POWER switch is in the ON position (and the power cord correctly inserted and plugged in to a live wall socket) the Tuner will power up in standby mode (see FRONT PANEL CONTROLS, STANDBY,).

It is recommended that the POWER switch is turned OFF if the Tuner is not going to be used for an extended period of time.

3 My-link input/output

When the MT 100 is used in a system with other Myryad products all may be joined together via the My-Link and this offers three benefits. First, when coupled to a Myryad Integrated Amplifier (e.g. the MI 120) or Pre-amplifier, the MT 100 will automatically be switched into or out of STANDBY when the amplifier is switched on, either from the front panel, or its own remote control. Secondly, the My-Link allows both the MT 100 and the Myryad Amplifier to be remote-controlled via the infra-red receiver in either unit. Thus only one unit needs to be in “line-of-sight” of the remote handset. Finally, the system enables the remote control of some Myryad products that do not have their own infra-red receiver.

When connected to a Myryad Integrated Amplifier or Pre-amplifier via the My-Link, the tuner display will show the message

“SYSTEM ON” during the five-second warm-up period.

4 Antenna input

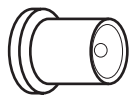
The MT 100 is fitted with a 75Ω “coaxial” antenna socket, which must be used with a 75Ω antenna (aerial). The MT 100 is supplied with a simple wire 300Ω antenna together with an impedance matching adaptor (see Figure 1). This antenna is provided to ensure that the tuner can be set up and used straight “out of the box”. It is not adequate to provide full performance from the Tuner except in areas of particularly high signal strength (e.g. close to the FM transmitter). In most instances a good quality roof or loft mounted FM antenna should be used – see “Antennas” section on page 7.

The MT 100 has different coaxial antenna sockets to suit different countries. “North American” models are fitted with “F” type coaxial connectors while models for most other countries are fitted with “DIN” style connectors. When using the 300Ω wire antenna the matching adaptor (or balun) must be used and “DIN” versions also need to be fitted with the female-to-female adaptor supplied. See Figure 1 for clarification.

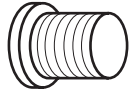
When you unfold the wire antenna you will note that it is in the form of a “T”. The “crossbar” portion of the T should be stretched out horizontally and tacked in place, either on a wall or the back of a cabinet, or on the ceiling. The “vertical” section of the T goes to the tuner’s antenna input via the balun (see Figure 1). Experiment with the position and orientation of the antenna to obtain the best reception.

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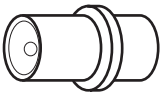
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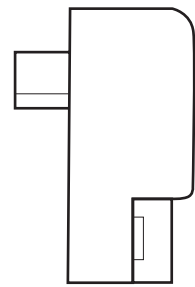
Coaxial antenna socket (DIN type)



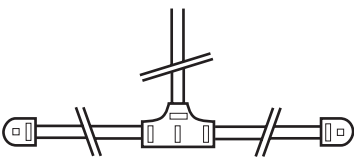
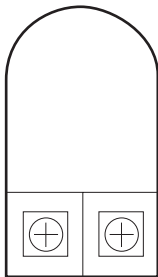
Coaxial antenna socket (F type)



Female-to-female adaptor (DIN versions only)



300Ω adaptor (balun) (F type is similar)



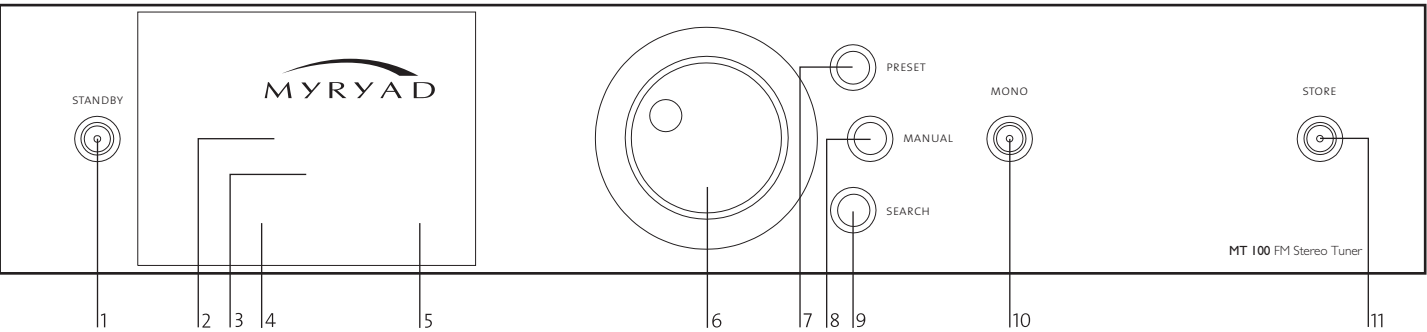
Wire antenna

(Figure 1)
Antenna connectors and adaptors

5 Line outputs

These outputs are suited to the “TUNER” or other “Line” inputs (e.g. CD or AUX) of any integrated amplifier or pre-amplifier. Never connect to the amplifier’s PHONO inputs.

OPERATING YOUR SYSTEM



FRONT PANEL CONTROLS

1 Standby

When the Tuner is plugged into a live wall socket and the POWER switch is turned ON, it will power up in “Standby” mode and the LED (Light Emitting Diode) in the STANDBY button will glow red. In this mode the internal circuitry of the MT 100 is powered up but disabled, so that it consumes very little power and its audio output is muted by a relay.

When the STANDBY button is pressed the MT 100 circuitry will be activated, and, after a few seconds delay, the audio outputs will be enabled. During this delay period the LED in the STANDBY button will flash blue. When the outputs are de-muted it will glow green continuously.

When the STANDBY button is pressed again the Tuner will be returned to standby mode. The LED in the STANDBY button will glow red again and the display will be extinguished.

CAUTION: WHEN IN STANDBY MODE THE INTERNAL CIRCUITRY OF THE MT 100 IS STILL LIVE, SO ALL SAFETY PRECAUTIONS MUST BE FOLLOWED.

2 Infra-red receiver

The infra-red (IR) remote control receiver is mounted behind the window, just above the display. It must not be obscured when the Tuner is to be operated using a Myryad System Remote handset. Where possible it is best to arrange that the IR receiver is in “line-of-sight” of the remote handset.

3 Display

The operation of the tuner is indicated on a high quality blue Vacuum Fluorescent Display. The tuned frequency is always displayed to the left, together with the Preset Number, Signal Strength or SCH to indicate the selected tuning mode (see below, sections 7, 8 and 9).

4 Stereo indicator

This indicator is illuminated when a stereo broadcast is being received and the tuner is not switched to MONO mode.

5 On tune indicator

This indicator is illuminated when any FM signal, above a very low threshold, is received and is ON TUNE.

6 Tuning knob

The tuning knob is used to set the frequency in MANUAL, PRESET and SEARCH modes. The knob operates with 24 discrete clicks per revolution. The operation of the knob is determined by the mode selected (see below) but in all modes, a clockwise click will perform an incremental operation and an anticlockwise click a decrement.

7 Preset tuning mode

Press the PRESET button to enter “Preset Tuning” mode. The MT 100 will tune to the frequency of the last used preset station and the display will show the tuned frequency and the preset number (see Figure 2). When the tuning knob is turned one step clockwise the MT 100 will tune to the preset stored with the next higher number while an anti-clockwise step will move to the next lower stored preset. The tuner will skip preset positions that have not been programmed,

i.e. if station 3 is not programmed, the tuner will skip from station 2 to station 4. If the tuner is stepped beyond the highest number preset stored, it will “wrap-around” and step back to the lowest numbered preset.

Preset Display Mode (Figure 2)

98.75 P 6

NOTE: PRESET MODE CANNOT BE ENTERED UNTIL AT LEAST ONE STATION HAS BEEN PROGRAMMED (SEE SECTION 11 – STORE BUTTON)

8 Manual tuning mode

Press the MANUAL button to enter Manual Tuning mode. The display shows the tuned frequency, together with a Signal strength indication (see Figure 3). When the tuning knob is rotated clockwise the tuned frequency will increase by 50kHz at each click step or decrease by 50kHz per click for an anti-clockwise rotation. Correct tuning can be obtained either by setting the correct frequency, if it is known, or by tuning until the ON TUNE indicator illuminates – which indicates accurate tuning. Once the station is tuned its frequency may be stored as one of the Presets if desired (see above).

The signal strength indicator will display a number from 1 to 9, preceded by the letters “SI”. A signal strength of “–” indicates no signal, whilst a signal strength of 9 indicates a very strong signal. Normally an indication of 4 or 5 is necessary for a useable signal in stereo, while a figure of 7 should ensure that lowest noise reception is obtained in stereo. tuning mode. If the signal strength of a station tuned in Preset mode is required,

simply switch to Manual mode after tuning. A Signal Strength reading of 5 or below indicates that improved sound quality might be achieved by improving the antenna system.

Manual Display Mode (Figure 3)



9 Search tuning mode

Press the SEARCH button to enter Search Tuning mode. The display shows the tuned frequency, together with “SCn” where “n” is the signal strength (1 to 9). When the tuning knob is turned one step clockwise the MT 100 will commence searching for FM stations at frequencies higher than the start point and the display will change to “SCH” during SEARCH (see Figure 4). If the knob is rotated anti-clockwise the MT 100 will search lower frequencies. When the first station of adequate signal strength is detected the MT 100 will stop searching, the display will return to “SCn” to show the signal strength and the ON TUNE indicator will illuminate. Once the station is tuned, its frequency may be stored as one of the Presets if desired (see below), or the search initiated again by rotating the tuning knob in the required direction.

Search Display Mode (Figure 4)



Searching may be stopped before a station is found by rotating the tuning knob in the opposite direction to the current search, or by pressing the MANUAL, PRESET or SEARCH mode buttons.

10 Mono button

When the MONO button is pressed the tuner is locked into MONO reception mode and the STEREO indicator will not illuminate, whether the tuned station is transmitting in stereo or mono. A green LED in the MONO button will illuminate to indicate this mode. If noisy reception is experienced in stereo mode, pressing the MONO button will usually result in a dramatic improvement in sound quality. Switching the tuner to MONO mode also disables the inter-station muting, so allowing very weak stations to be received. When a station is stored as a preset (see previous page) the MONO status is also stored, and will therefore be recalled whenever that preset is accessed.

11 Store button

The STORE button is used when storing the preset station frequencies. The procedure is as follows:

- Tune to the desired station using either MANUAL or SEARCH tuning mode, and set to MONO if required.
- Press the STORE button to enter STORE mode, which illuminates the red LED in the button. The tuner will automatically change to Preset mode at the last used preset number.
- If the station is to be stored at a different preset number, rotate the tuning knob clockwise or anti-clockwise until the desired preset number is reached, otherwise move directly to step 4.
- Press the STORE button again to store the frequency at the preset number displayed. The tuner will then automatically return to the previous tuning mode ready to tune the next station and the STORE button LED will extinguish.
- STORE mode can be exited by pressing either MANUAL, SEARCH or PRESET buttons. The preset station data is stored in a permanent memory and is retained when the tuner is in standby mode, or switched off at the rear panel.
- To Delete The Selected PRESET Station – Whilst holding the PRESET button, press the STORE button. Then release both buttons.
- To Delete All PRESET Stations – While holding the MONO button, press the STORE button. Then release both buttons.
- These two operations can only be performed from the front panel, not the remote control.

REMOTE CONTROL
HANDSET OPERATION

The MT 100 may be remote controlled using a Myryad System Remote handset which is supplied with some Myryad Integrated Amplifiers and Preamplifiers, or can be purchased separately. The System Remote keys which can control the MT 100 tuner are:PRESET, MANUAL, SEARCH, MONO, TUNE UP, TUNE DOWN, STORE, STANDBY, DIM and keypad numbers 0-9.

Preset, manual and search

Mode keys operate exactly as MT 100 front panel buttons.

Mono

The MONO key operates exactly as the MT 100 front panel button.

Store

The STORE key operates exactly as the MT 100 front panel button.

Tune up and tune down

These keys operate in a similar way to the rotary tuning knob. A single brief key press will have the same effect as one click step of the knob, moving either up or down in frequency or preset number. In Manual and Preset modes, when a key is pressed and held down the tuner will scan in the desired direction.

Keypad 0-9

These keys allow direct access to any preset station. If a preset numbered 10 to 29 is desired, (e.g. 14) press “1”, followed by “4”. If “1” is pressed without a second digit, the tuner will go to preset 1 after few seconds. Pressing any other number key, from 2 to 9, will tune instantly to the relevant preset station. Presets 1 and 2 may be tuned instantly by pressing “0” first (i.e. 0,1 or 0,2).

Dim

The Vacuum Fluorescent Display may be dimmed or switched off using the DIM key. The first press of the DIM key will switch the display off. A second press will turn the display on again, but less brightly. A third press of the DIM key will return the display to its original brightness. The display will come on briefly if controls are used while the display is off.

Standby

Pressing the STANDBY key sends the command to switch your Myryad Integrated Amplifier or Preamplifier into or out of STANDBY mode. If your MT 100 is linked to the Integrated or Preamp via the My-Link then the MT 100 will also be switched into or out of STANDBY. It is also possible to switch only the MT 100 into or out of STANDBY using the “Tuner Standby” command. This is achieved by pressing and holding down the TUNER button and then simultaneously pressing the STANDBY button. This will switch the STANDBY status of the MT 100 without affecting any other unit.

ANTENNA

The wire antenna supplied with the MT 100 may provide adequate reception of strong FM signals. However, such an antenna is not very efficient at rejecting “multipath” and other forms of FM interference. Nor can it easily be rotated to optimize its pickup pattern for best reception of stations from different directions. In most cases you will greatly improve reception by using a better antenna.

The best choice is a directional FM-only antenna, mounted as high above ground as is practical. The antenna should be mounted externally for best reception, but loft mounting is a simpler alternative which is satisfactory in many locations when adequate loft space is available. The type of antenna necessary will depend upon both your distance from the transmitter and the local geography (e.g. intervening hills or large buildings).

It is also most important to pay attention to the quality of the coaxial cable used for the download from the antenna to your tuner. Avoid joins along the length of the cable and ensure that the exposed end at the antenna is properly weatherproofed against ingress of moisture. All cables lose some signal along their length and it is false economy to use cheap cable of unknown quality. Always specify the best “low loss” coaxial cable

The above notes are for guidance only. It will usually be best to consult a local specialist aerial/antenna contractor who will have knowledge of local reception conditions. Your Myryad dealer may also be able to offer advice.

SPECIFICATIONS

Technical data	
Usable sensitivity (IHF, mono)	1.5µV
Signal/Noise ratio (60dBµV)	80dB (Mono) 74dB (Stereo)
THD (1kHz).....	0.1% (Mono) 0.2% (Stereo)
Image rejection	88dB
IF rejection.....	100dB
Frequency response (20Hz – 15kHz)	± 0.5dB
Stereo separation (1kHz).....	45dB
Dimensions (width x height x depth).....	436 x 95 x 303mm
Weight, Net	5.4kg
Supply Voltage (set by internal wiring)	120V or 230V

Stock No: OST0011850
Revision A

TROUBLE-SHOOTING
GUIDE

some of the most common problems

No sound:

- Power turned off or system in standby mode. Check that the blue LED in the STANDBY button is illuminated.
- UK version only: The fuse in the mains plug has failed. Check and replace if necessary.

Sound in one channel only:

- Interconnect cable pulled loose or making poor contact. Check and, if necessary, un-plug and re-plug all cables.

Loud buzz or hum:

- Interconnect cable pulled partially out of its socket.
- Defective interconnect cable.

Hiss that gets worse with stereo reception

- Antenna connector loose. Un-plug and re-plug connector and check cable.
- Weak antenna signal. Move wire antenna to optimize reception. If not adequate, install a loft or external antenna.
- If all else fails, switch to MONO reception.

Stereo indicator fails to light during a stereo broadcast

- Another possible effect of a very weak signal. Attend to the antenna system as described above.

Distorted reception

- “Multipath” reception. Rotate antenna to find the orientation that provides the best reception. Raise the height of the antenna. If all else fails, switch to MONO reception.

For further help please visit
www.myryad.co.uk/faqs.html