

TMAA13 Power Supply

User's Guide

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Contact information

Tait Communications Corporate Head Office

Tait Limited
P.O. Box 1645
Christchurch
New Zealand

For the address and telephone number of regional offices, refer to our website: www.taitradio.com

Technical Support

For assistance with specific technical issues, contact Technical Support: <http://support.taitradio.com/home>

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Enquiries and Comments

If you have any enquiries regarding this document, or any comments, suggestions and notifications of errors, please contact your regional Tait office.

Environmental responsibilities

Tait Limited is an environmentally responsible company which supports waste minimization, material recovery and restrictions in the use of hazardous materials.



The European Union's Waste Electrical and Electronic Equipment (WEEE) Directive requires that this product be disposed of separately from the general waste stream when its service life is over. For more information about how to dispose of your unwanted Tait product, visit the Tait WEEE website at

www.taitradio.com/weee. Please be environmentally responsible and dispose through the original supplier, or contact Tait Limited.

Tait Limited also complies with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive in the European Union.

In China, we comply with the Measures for Administration of the Pollution Control of Electronic Information Products. We will comply with environmental requirements in other markets as they are introduced.

Important safety information

Please read these warnings before using the TMAA13 power supply.

Warning: Safe operation



To reduce the risk of fire or electric shock, please adhere to these warnings:

- **Moisture:** Do not expose this appliance to rain or moisture.
- **Cleaning:** Unplug the power supply from the mains power outlet before cleaning. Switching off the power supply will not reduce this risk.
- **Ventilation:** Place the power supply in an area that will allow air to flow freely around the unit to prevent overheating. Do not block or obstruct any of the ventilation openings on the unit.

Warning: Electrical connections



To reduce the risk of fire or electric shock, please adhere to these warnings:

- Do not connect two or more power supplies together.
- The power supply should be properly connected and grounded. Use the provided AC power cable to connect the power supply to a mains power outlet that is properly installed and grounded, in accordance with all local codes and ordinances. If the power supply cord is damaged, it must be replaced with the same type to comply with safety requirements.
- Never alter the provided AC cable or plug. If the plug does not fit into the outlet, have an appropriate outlet installed by a certified electrician.
- Use an extension cord only when absolutely necessary. The extension cord must have the same voltage and power rating as the original power supply plug. Make sure that the pins on the plug are of the same number, size and shape as those of the original power supply plug.
- Do not connect a backup battery directly to the power supply.
- Do not use the power supply to directly charge a battery.

Warning: Servicing



This power supply should be serviced by a qualified service technician. Incorrect assembly may result in electric shock or fire. We recommend that you return the power supply to a qualified Tait Limited dealer for all services and repairs.

Warning: High voltage levels



Some of the components inside the power supply can operate at voltage levels that may be lethal.

User information

The TMAA13 is a switched mode power supply. It converts mains input voltage to regulated $13.8V_{DC}$ using pulse-width modulation (PWM) control.

To avoid any issues that may be caused by simultaneous transmissions, there should be one TMAA13 per radio.

The TMAA13 power supply is protected against short circuits, as well as over-current and over-voltage conditions. It also offers over-temperature shutdown.



mains cable

power supply

Check the mains supply voltage

Before you plug in and turn on the power supply for the first time, please check the mains supply voltage.

The voltage rating of the power supply is printed on a label on the bottom of the unit. Verify that it corresponds with your local mains supply voltage (that is, $120V_{AC}$ or $230V_{AC}$).

The variations in mains supply voltage under which the TMAA13 power supply can operate, are listed in the [‘Electrical specifications’ on page 8](#).

Turning the power supply on

The power supply has an illuminated on/off switch, marked “I” for on and “O” for off. Turn the power supply on by pressing the “I” side of the switch. The indicator inside the switch will illuminate.

Turning the power supply off

Before you turn the power supply off, turn the radio off as described in the user documentation for the radio.

To turn the power supply off, press the “O” side of the power switch.

Cooling

The TMAA13 power supply is cooled by convection and forced air cooling (that is, normal airflow around the power supply in combination with a temperature controlled fan to improve cooling at higher levels of use). The fan is activated by a sensor when the temperature rises above 70°C.



Caution: Place the power supply in a well ventilated and cool area. Do not block the ventilation openings on the sides, back or top of the unit.

Servicing

By following the procedures in this user’s guide, and by exercising normal care, the power supply will give you trouble-free service for many years. However, when required, servicing should be carried out by a qualified service technician. While within the warranty period, servicing must be carried out by your Tait dealer.

Troubleshooting

Power switch does not illuminate when turned on

Probable cause: No power in the AC outlet, or the main input fuse inside the power supply is blown.

Suggested solution: Check the mains power outlet, or replace the mains input fuse inside the unit (refer to the input fuse ratings [on page 8](#)).

Notice: Replacing the fuse must only be done by a qualified service person.

Fuse blows when power is turned on

Probable cause: Unit is defective.

Suggested solution: Contact Technical Support.

Output voltage is 0V or very low

Verify this fault condition with a multimeter.

Probable cause: The unit is in current limit condition.

Suggested solution: Check that the output terminals have not short-circuited.

Electrical specifications

TMAA13 power supply

Input voltage	
TMAA13-22	100 to 130 V _{AC} 60Hz (UL approved)
TMAA13-21	200 to 250 V _{AC} 50Hz (CE approved)
TMAA13-23	200 to 250 V _{AC} 50Hz (CE approved)
TMAA13-24	200 to 250 V _{AC} 50Hz (CE approved)
Output voltage	13.8V _{DC}
Output ripple	
10 A load	3mV _{rms}
full load	5mV _{rms}
Output noise	
10 A load	95mV _{pp}
full load	115mV _{pp}
Output current, continuous	23A
Current limit	25A
Protection	Over-current Short-circuit Over-voltage Over-temperature shutdown
Input fuse rating	
TMAA13-22	6.3A
TMAA13-21	4 A
TMAA13-23	4 A
TMAA13-24	4 A
Fuse type	5mm x 20mm glass, 250V, fast blow

Notice: Specifications may change without prior notice.