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Microwave Video Receiver

Operating instructions

for

23cm version & 13cm version



This document is provided as-is, without any warranty.

Operating instructions

Connections and setup

All connections are on the rear panel.

- Connect a suitable antenna to the **Antenna** SMA socket. Adapter leads (if required) are available from G1MFG.com to convert from SMA to N or BNC.
- Connect the **Video** and audio **A** (6.0MHz) (and/or **B**, 6.5MHz) sockets to a suitable monitor. The output signals are ideally suited for connection to the A/V inputs to a TV or VCR. Adapter leads (if required) are available from G1MFG.com to connect from the receiver's phono sockets to the SCART socket on a TV.
- Connect a **regulated** power supply of between 12V and 14.5V to the **12V** socket.

IMPORTANT - the polarity of the **12V** socket is tip (centre) positive. Reverse polarity **will** cause permanent damage to the receiver. Such damage is not covered by your guarantee.

IMPORTANT Unregulated "12V" power supply units often have an off-load voltage in excess of 18V. Excessive supply voltages **will** cause permanent damage to the receiver. Such damage is not covered by your guarantee.

When power is applied to the receiver the LCD will light up and after a brief information display the receiver automatically tunes to the frequency stored in Memory 0.

Recalling memory frequencies

Press **Memory recall** to step through memories 0 to 9. The receiver will tune to each memory in turn. When supplied, all the memories are pre-programmed with frequencies relevant to the amateur band but these can easily be changed (see *Storing a frequency in a memory* overleaf).

- Once a frequency has been recalled, you can use **Freq Up** and **Freq Down** to adjust the tuning. This does not affect the frequency stored in the memory.

Tuning to a specific frequency

Use the **Freq Up** and **Freq Down** buttons to tune the receiver. Keeping a button pressed will cause the receiver to continue to tune in the selected direction, and the tuning speed increases after the receiver has moved 2MHz in either direction.

- Tuning speed remains in fast mode for a short time after the button is released.

Storing a frequency in a memory

Use the **Freq Up** and **Freq Down** buttons to select the frequency you want to store, then press **Memory Store** to enter memory store mode. Select the memory you want to write to by pressing **Memory Recall**, then press **Memory Store** again to write the frequency to the selected memory.

Two special memories are provided - *Scan Lo* and *Scan Hi*, which set the lower and upper scan limits for the Band Scan function. Please make sure that you store a higher frequency in *Scan Hi* than *Scan Lo* otherwise you'll get an error message when you press **Band Scan**.

Band scan

Pressing **Band Scan** makes the receiver tune between the frequencies stored in the special memories *Scan Lo* and *Scan Hi*.

In order to achieve sensible scan times, **Band Scan** operates in different ways depending on whether the total scan width is greater or less than 100MHz.

- For scans less than 100MHz wide, the receiver scans in 0.5MHz steps
- For scans covering more than 100MHz, the receiver scans in 1MHz steps and the scan rate is somewhat faster.

To stop scanning, press **Band Scan** again. You can use **Freq Up** and **Freq Down** to fine-tune when you stop scanning.

Memory scan

Memory Scan tunes the receiver to each memory channel in turn. Press the **Memory Scan** button to start scanning. The receiver will repeatedly step through the 10 memory channels (0-9).

To stop memory scanning Press **Memory Scan** again.

Troubleshooting

TV shows blank screen, or blue screen

Your TV is set to blank its screen when not receiving a valid signal (e.g. when the Microwave Video Receiver is not tuned to a signal). This can often be disabled using the TV menu settings. If this blanking cannot be disabled then we recommend using a different TV or monitor.

No signals received

The Microwave Video Receiver is a very sensitive receiver but even it will not give satisfactory results without an appropriate antenna. For local signal monitoring a simple antenna such as a quarter-wave whip (e.g. a 'rubber duck') may suffice. For longer-distance reception, a suitable outdoor antenna (e.g. a yagi, or plate, or parabolic) and microwave-grade coaxial cable is strongly recommended.

Specifications and data

<i>Equipment description</i>	G1MFG.com Microwave Video Receiver
<i>Purpose of equipment</i>	<p>This receiver is intended for use by amateur radio hobbyists to receive amateur TV transmissions and similar signals. It is not intended for 'consumer', professional or commercial purposes.</p> <p>Users are reminded that it may be an offence to intercept signals that are not intended for general reception.</p>
<i>Manufacturer's details (and contact for technical support)</i>	<p>G1MFG.com L'Eglise, Durley Street, Durley, Southampton, SO32 2AA Telephone 01489 860 318 Email: sales@G1MFG.com Internet: www.G1MFG.com</p>
<i>Frequency range</i>	
<i>23cm version</i>	800 MHz - 1800 MHz
<i>13cm version</i>	2.200 GHz - 2.700 GHz
<i>Frequency Step size</i>	125kHz (500kHz / 1MHz in scan mode B)
<i>Number of memories</i>	10 (plus special Scan Lo and Scan Hi memories)
<i>Scan modes</i>	A - Memory scan B - Frequency scan between any two frequencies C - Manual scan from any starting frequency
<i>RF input</i>	SMA socket, nominal 50 ohms Minimum detectable signal level: approximately -100dBm Maximum total input signal without damage: 0dBm
<i>Video output</i>	Yellow phono socket (labelled Video), composite 1V pk-pk/75 ohms (nominal, depending on transmitted signal deviation)
<i>Audio outputs</i>	White phono socket (labelled A6) - demodulated 6.0 MHz audio Red phono socket (labelled A6.5) - demodulated 6.5 MHz audio
<i>Audio output level</i>	Nominal 500mV pk-pk (dependant on transmitted signal volume)
<i>Power requirement</i>	12 - 14.5V DC, 300mA typical, 2.1mm socket, tip (centre) positive

No user-serviceable parts inside. Refer servicing to the manufacturer. Do not attempt to disassemble or modify the Microwave Video Receiver.