

2W Control Head (Option G420AA) Owner's Guide

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Introduction

This manual covers the installation of the 2W Control Head, offered as option G420AA for the following MICOM-3 radio sets:

- RM-125, RM-125R
- RM-500, RM-500R
- RM-1000.

Caution During installation work, strictly observe the applicable safety precautions and local regulations.

Do not connect the control pair to either the radio set or the 2W Control Head during lightning storms.

For other safety information, see the "Owner's Guide, MICOM-3E/3T/3R HF-SSB Transceivers", Publication 6886867J01, and the Owner's Guide of the specific radio set.

Option G420AA

The option G420AA includes the following main items (see Figure 4):

- 2W Control Head. This item can be ordered for desktop use, or mounted in a 19" rack
- AC power supply for the 2W Control Head, provides DC power to the 2W Control Head
- AC power cable for the AC power supply
- Owner's Guide, 2W Control Head (Option G420AA), Publication 6886873J01 (this manual).

The connection between the 2W Control Head and the controlled radio must be provided and installed by the customer. The connection is made by a single unloaded twisted pair, of the type used for phone and ISDN lines. The recommended gauge is 24 AWG, which allows the control head to be located at a distance of up to 4 km (2.5 mile) from the controlled radio set; lower gauge pairs, for example, 26 AWG, may also be used, but the maximum range will decrease.

2W Control Head

Functions

The 2W Control Head is a stand-alone unit with its own power (supplied by the AC power supply) that enables operators at a remote location to control a radio set using the regular operating procedures. The connection between the controlled radio set and the 2W Control Head is made by a simple twisted pair.

The 2W Control Head has a front panel similar to that of the MICOM-3 radios, and thus it provides full access to all the functions that can be controlled from the radio front panel. It also has an internal speaker, connectors for audio accessories, and an accessories connector that provides the basic services available to accessories connected to MICOM-3 rear-panel accessories connector. For example, you may connect an external 8 Ω speaker to this connector, instead of the internal speaker of the control head; you may also connect voice privacy devices, audio patch panel, MRC or RSS.

A local operator can still control the radio set using the radio set front panel: any action made by either the local or remote operator is reflected both on the radio set and 2W Control Head panel.

Note *When both operators try to transmit at the same time, the radio will serve the operator that pressed the PTT first.*

When necessary, the local operator can disable the remote control functions by means of a switch located on the radio set rear panel. In this case, the 2W Control Head still reproduces the audio and displays the status of the radio set, as determined by the local radio operator.

Control Head Front Panel

The front panel of the control head is shown in Figure 1. For operating procedures, you may use the information appearing in the "Owner's Guide, MICOM-3E/3T/3R HF-SSB Transceivers", Publication 6886867J01.

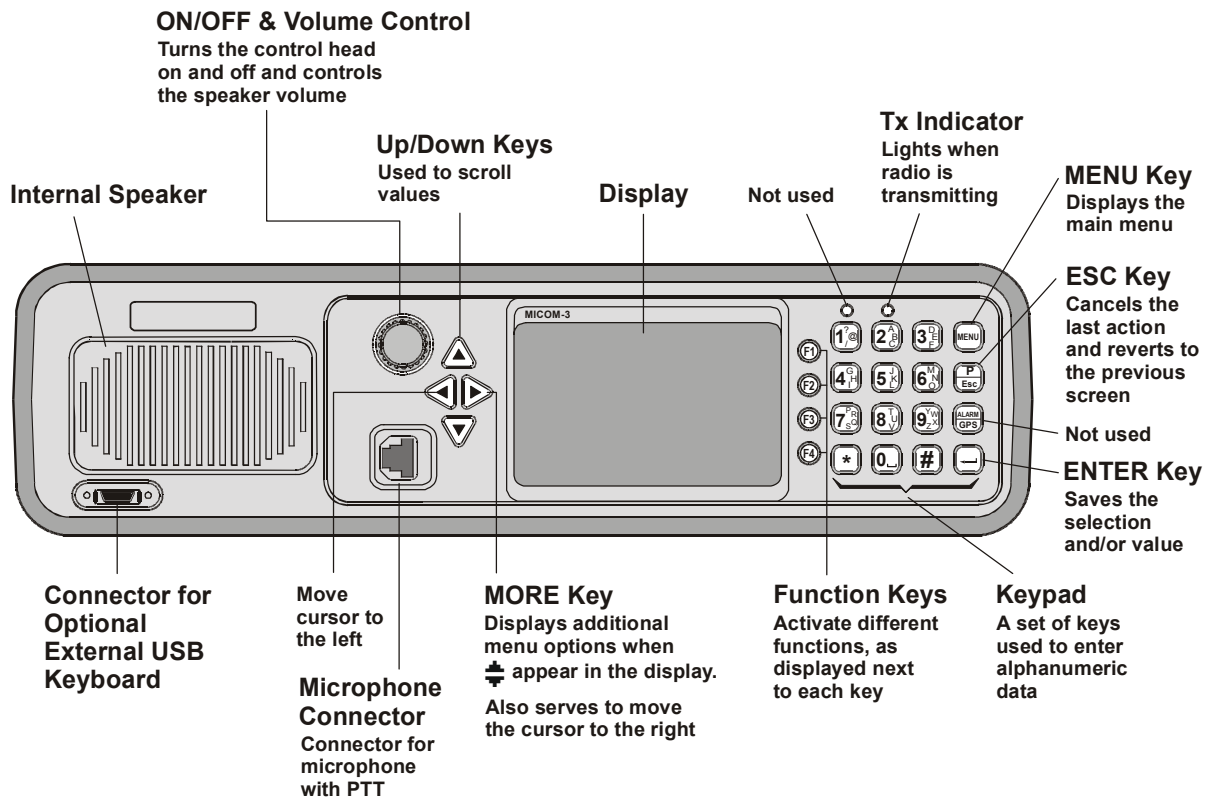


Figure 1. 2W Control Head Front Panel

Control Head Rear Panel

The components located on the rear panel of the control head are identified in Figure 2. The figure shows the rack-mounted version of the 2W Control Head.

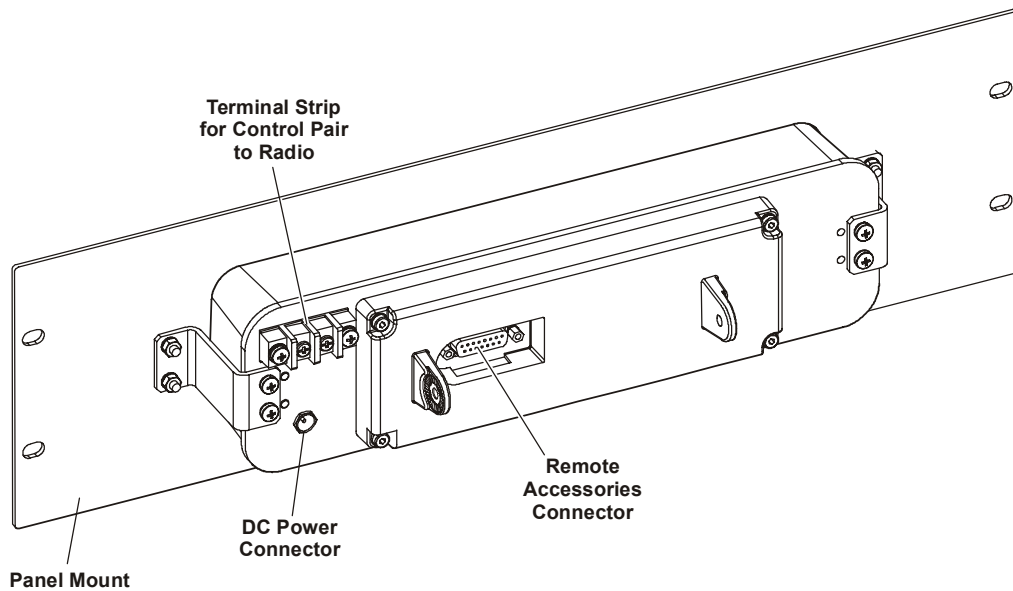


Figure 2. 2W Control Head, Rear Panel

The rear panel has the following components:

- 3 mm round connector for connecting the DC power cable from the AC power supply
- Terminal strip for the twisted pair to the controlled radio set
- 15-pin female D-type connector for connecting accessories. Table 1 lists the functions of the connector pins.

Table 1. Remote Accessories Connector, Pin Functions

Pin	Designation	Function
1	13.8 VDC	+13.8 V nominal output voltage, current limited (max. 200 mA)
2	NC	Not connected
3	GND	Ground
4	NC	Not connected
5	UART RS-232 OUT	Serial data transmit output, at RS-232 levels
6	UART RS-232 IN	Serial data receive input, accepts RS-232 levels
7	AUDIO_IN	Microphone input (nominal impedance: 600 Ω ; 6 mV tone is required for full output power)
8	PTT_IN	PTT input, activates transmission when connected to ground
9	+5 VDC	+5 V output voltage, current limited (max. 100 mA)
10	SPKR+	Differential output to an external 8 Ω , 8 W speaker
11	SPKR-	
12	NC	Not connected
13	NC	Not connected
14	AUDIO_OUT	Receive audio output (nominal impedance: 600 Ω)
15	NC	Not connected

AC Power Supply

The AC power supply is a compact power supply unit that provides the required operating voltage (nominally 13.8 VDC) for the 2W Control Head. Figure 3 shows a general view of the AC power supply.

The AC power supply operates on 110/230 VAC, 50/60 Hz. It has a short DC output cable with a 3 mm round plug for connection to the control head, and a standard IEC three-prong connector for the AC power cable.

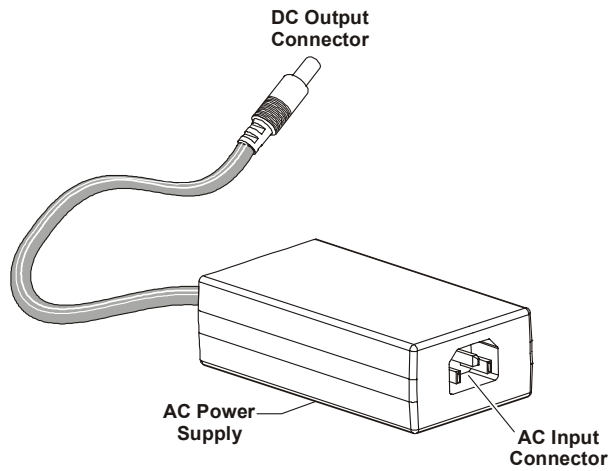


Figure 3. AC Power Supply

Installation

General

The 2W Control Head can be ordered in two versions:

- Desktop version, has an adjustable base for placing the 2W Control Head on a desktop
- Rack mount version, comes installed on a panel intended for installation in 19" racks.

The two versions are illustrated in Figure 4.

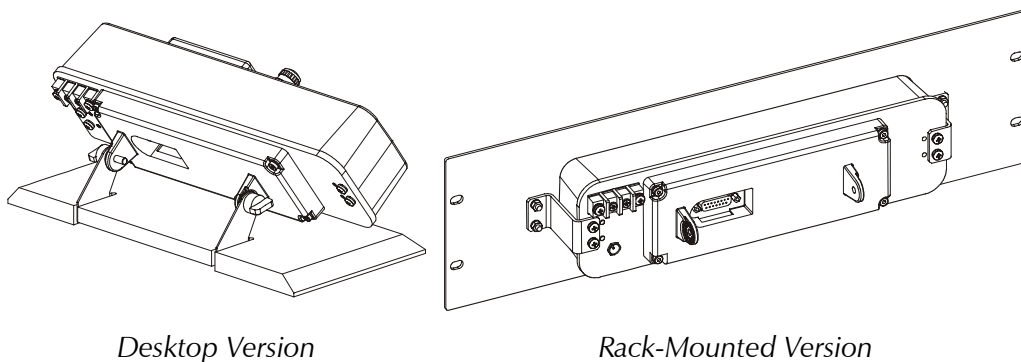


Figure 4. 2W Control Head Versions

Note Before starting the installation, inspect the received equipment and make sure that all the items listed on the packing slip has been received and are in good condition. Report immediately any discrepancies.

The installation of the 2W Control Head includes three main steps:

1. Installation of 2W Control Head itself.
2. Connection of control pair between the 2W Control Head and the controlled radio.
3. Preparing the controlled radio for remote control.

Installing the 2W Control Head

Installing the Desktop Version

For the following steps, refer to Figure 5.

1. Place the desktop control head in the intended location.
2. Connect the power cable of the AC power supply to the control head DC power connector.
3. Check that the control head ON/OFF switch and volume control is at OFF (fully counterclockwise position).
4. Connect the AC power cable to the AC power supply, and then connect the other end to a grounded AC outlet capable of providing 110 VAC or 230 VAC, 50/60 Hz.
5. At this stage, you may connect the control pair to the rear-panel terminals.
6. If necessary, connect the prescribed equipment to the control head accessories connector.

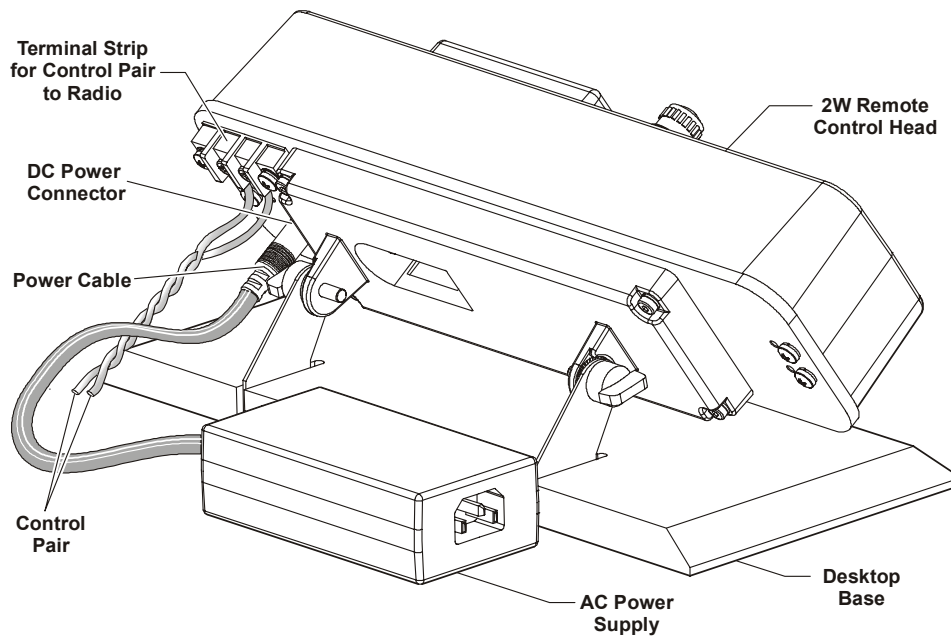


Figure 5. Installing the Desktop Version

Installing the Rack-Mount Version

1. Identify the prescribed position of the 2W Control Head in the rack.
2. Attach the control head to the rack rails, using four screws (not supplied).
3. Place the AC power supply in the rack, near the control head, and then connect the power cable of the AC power supply to the DC power connector of the control head.
4. Check that the control head ON/OFF switch and volume control is at OFF (fully counterclockwise position).
5. Connect the AC power cable to the AC power supply, and then connect the other end to a grounded AC outlet capable of providing 110 VAC or 230 VAC, 50/60 Hz.
6. At this stage, you may connect the control pair to the rear-panel terminals.
7. If necessary, connect the prescribed equipment to the control head accessories connector.

Preparing the Radio Set for Remote Control

For the following steps, refer to Figure 6.

1. If the controlled radio set has not yet been put into operation, check that it has been properly installed and that it is ready for operation.
2. Set the remote control switch to the OFF position.
3. Connect the control pair from the 2W Control Head unit to the rear terminal strip.

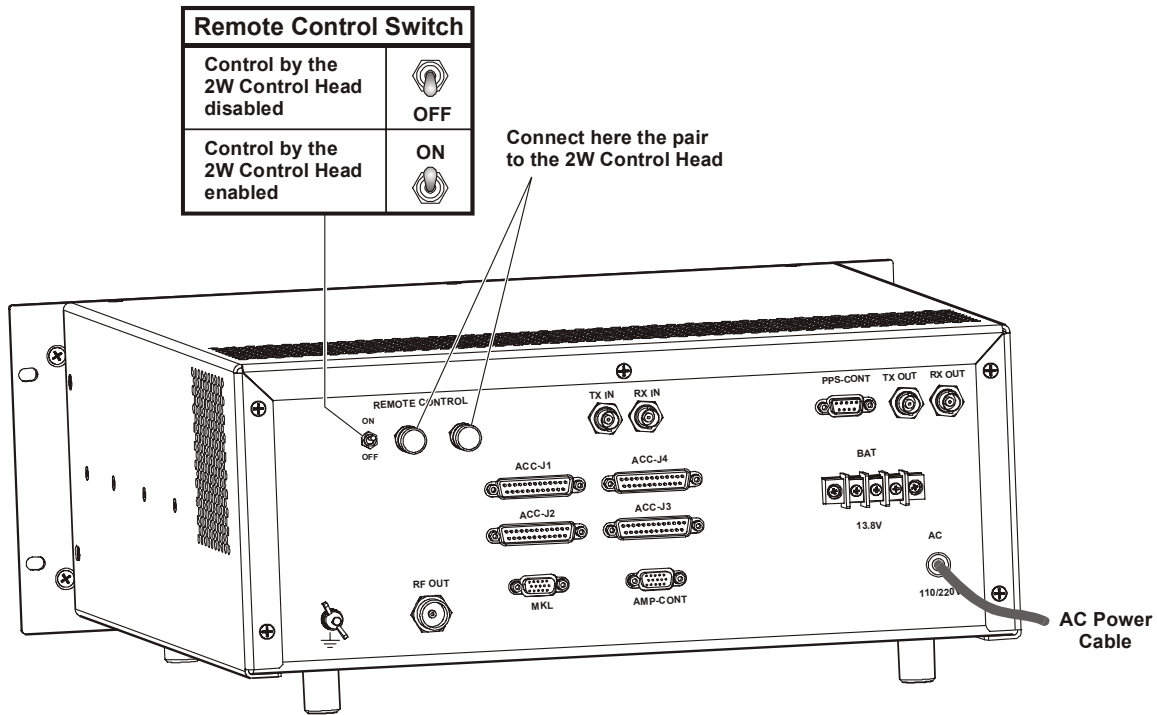


Figure 6. Preparing the Radio Set for Remote Control

Remote Control Instructions

1. When ready to start operation under remote control, connect a microphone to the 2W Control Head.
2. Turn the 2W Control Head on.
3. If the controlled radio set does not yet operate, turn it on and check that it operates properly when controlled from its front panel. Now set its rear panel remote control switch to ON.
4. You can now start using the 2W Control Head to operate the radio set in the same way you would use the radio set front panel. However, the local operator can also operate the controlled radio set using its front panel.

For operating procedures, you may use the information appearing in the "Owner's Guide, MICOM-3E/3T/3R HF-SSB Transceivers", Publication 6886867J01.

5. To temporarily disable remote control, set the rear panel remote control switch of the controlled radio set to OFF. In this case, the controlled radio set can be operated only from its front panel.
6. To stop remote control, set the rear panel remote control switch of the controlled radio set to OFF and turn the 2W Control Head off.
7. When the 2W Control Head is not in use, you may turn it off by setting its ON/OFF switch and volume control to OFF. The radio set continues operating as usual, under the control of its front panel.

Note *Both the radio set and the 2W Control Head automatically detect the presence of the other unit and notify their operator:*

1. *When the radio set operates, it will display REMOTE DETECT when the 2W Control Head is turned on, and REMOTE REMOVE when the 2W Control Head is turned off or disconnected.*
 2. *When the 2W Control Head operates, it will display LOCAL DETECT when the radio set is turned on, and LOCAL REMOVE when the radio set is turned off or disconnected.*
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