1. CM12

The Wunder Audio CM12 Tube Microphone is targeted to the professional with the most demanding criteria. The CM12 uses the larger Hiller T14/1 output transformer that was standard in the early C12. The beautiful hand made capsule is a CK12 style. These boutique microphones are hand assembled in Texas per customer's order. Tubes are hand tested NOS GE 5-star 6072.

It should be stressed that vacuum tubes, with their heater filaments, are much more delicate than solid-state components. Consequently, the user should take great care in handling the microphone. A drop from even a moderate height may cause the filament to break and may result in immediate failure of the microphone. It would be advisable for the user to keep a spare tube – specially selected by the Wunder Audio Service Department – always ready for replacement.

It is important to note that the tube may have become slightly unplugged from the tube socket during shipping. If the microphone has no audio output, 99% of the time it is a result of a slightly unplugged tube.

How to Replace the Vacuum Tube

Repairs are to be carried out only by experienced, authorized service personnel. Unauthorized opening of, or modification to the equipment shall void the warranty.

The microphone tube requires a high operational voltage. Contact with the voltages present in the interior of the microphone and PSU may result in injury or death; therefore, the microphone and PSU must be opened only by an authorized, qualified technician.

The microphone must be operated only with the supplied cable. Because hazardous voltages are generated by the PSU that may result in injury or death, always ensure that the microphone cable is undamaged. Damaged cables must no

longer be used.

1. Disconnect microphone from PSU.

2. Turn the three grub screws at the lower end of the microphone into the body in a clockwise direction until the outer housing can be pulled off in a downwards direction.

3. The vacuum tube may now be removed by depressing the lower (rubber) shockmount to free the tube with a forward motion. Taking the tube socket in one hand and the tube itself in the other hand will enable you to separate the vacuum tube from the socket.

4. Insertion of a new tube should be done in reverse order of the description above.

Operation

The CM12 is equipped with an 8-pin Swivel-Mount connector that plugs into the base of the microphone and screws tight. Always make sure that the PSU is switched off when plugging the microphone connector into the microphone and PSU.

How to Change the Polar Pattern

Locate the white pattern switch on the PSU. Use this switch to change the directional characteristics: omni-, cardioid-, figure-eight, and eight intermediate positions. The center position with the Wunder Audio logo is the cardioid setting.

As you turn from position to position it will take a few seconds for the polarization voltage to settle and achieve the desired polar pattern.

How to Mount the Microphone

A special swivel mount/stand adapter is provided and should always be used to mount the microphone on floor stands or booms. The CM12 can now be placed with the microphone on stands or booms

with standard thread sizes. It may also be swiveled against the stand axis to suit the recording angle.

Powering of the Microphone

The required PSU is included with the microphone. It is clearly marked and should be quite obvious by connector type and size how to connect the microphone to the power unit with the supplied CM12 microphone cable. The audio signal may be taken from the transformer-balanced power unit by a conventional audio cable with standard XLR-type connector.

After connection of the microphone, the power supply, and the AC line, the main switch may be switched on. Operating condition will be indicated by the power lamp.

The warm-up time of the CM12 is approximately one minute. When your CM12 is new, a 24-hour burn-in period is recommended.

The CM12's tube will "break in" over a period of time enabling the CM12 to sound subtly better over a period of time.

2. The CM12 Power Supply

This PSU supplies the microphone with the 6.3V filament voltage and 120V plate voltage for the vacuum tube.

Prior to connecting the CM12 to AC power, check the AC voltage of the power line you are going to connect to the CM12.

The CM12 PSU has an internal AC voltage selector switch.

To check the CM12 PSU AC voltage selector switch, first unplug the AC cable (power plug) from the PSU.

Use a flat-blade screwdriver to unscrew the lid to the PSU and remove.

You will see a small chrome toggle switch located inside the unit

directly next to the large AC transformer.

To set the switch to 115V, toggle the switch towards the transformer. To set the switch to 230V, toggle the switch away from the transformer.

Warning: Connecting the CM12 to the wrong AC voltage may destroy the unit and cause fire and/or electric shock.

Replacing Fuses

The fuse protecting the primary circuit is located outside the PSU. Unscrew the black fuse cover to open the fuse compartment. Replace the fuse with a new fuse of the same type (T 500 mA for 115V; 250 mA for 230V) and close the fuse compartment lid.

AC Power Connector

If you are using the microphone in a different country, you may need to connect the unit to a power outlet that does not match the power connector on the supplied power cable. Purchase a matching power cable locally that complies with IEC and local safety standards and has a power connector with a chassis ground pin. While in the same area, use this “local“ power cable only.

Shutdown and Storage

Before switching off the microphone or disconnecting cables, reduce the volume of the connected equipment. Only then should the PSU be switched off.

Disconnect the cables. When disconnecting a cable, always pull only on the connector housing and not the cable itself.

When the microphone is not in use it should not be allowed to remain on the stand gathering dust.

A microphone that is unused for a prolonged period should be

stored in a cool, dry place and protected from dust.

Cleaning

Under normal conditions the microphone body may become dirty and covered with fingerprints. One or two drops of Lubriderm unscented hand lotion may be gently rubbed into the nickel finish with a terry cloth and then wiped clean.

Troubleshooting

1. Microphone not operating

Possible causes:

a. PSU not switched on

b. Microphone is not connected to PSU

c. Tube has become unplugged

2. Signal is noisy

Possible causes:

a. Tube filament has become damaged.

3. Specifications of the Microphone

Directional Characteristics: omni-, cardioid-, figure-eight, and eight intermediate positions remotely controlled from the microphone on the powering unit

Frequency Range: (20 - 20,000 Hz)

Electrical Impedance: 200 ohms

Powering: Via the included powering unit with 115/230 VAC

Maximum Sound Pressure Level: 138 dB

Sensitivity: approx 1 mvolts per dyne / cm sq

Non Linear Distortion: less than or equal to 0.5% at 100 dyne / cm sq

Equivalent Noise: 16 dB (a-weighted)

Connector: Large-sized swivel, 8 pin

Dimensions: 254 mm (10") x 41.3 mm (1.625")

Shipping Weight: Approx. (~12 lbs.)

Included Accessories:

CM12, CM12 PSU

NOS GE 6072 Tube, connection cable

CM12 Swivel Mount

Quarter-sawn oak case