10. Ref Key
Pressing the Ref key momentarily will display the current dBm reference power level for approximately 2 seconds. Holding down the REF key until “HELD” appears in the display (approximately 3 seconds) will store the current dBm reference level. Separate reference values can be saved for each wavelength. These will be retained when power is turned off.

■ Operation
The following procedures use the recommended standards as outlined by the Electronics Industry Association in the publication EIA-449-A-76.

1. Connect both units. Authorize the CMA5 Series Power Meter to an optical light source.
2. Set both units to the same wavelength.
3. Set the CMA5 Series Power Meter to dBm mode. The measured level should closely match the output level specified for the optical light source, if not clean the connections again or check for bends in the fiber.
4. Press the Ref key on the CMA5 Series Power Meter until the display reads "HELD".
5. Reverse the connections and set the CMA5 Series Power Meter to dBm mode. If the level displayed is 0.5 dB, the jumper is good and will provide a valid test. Otherwise clean the connectors or, if necessary, replace the jumper and repeat steps 4 and 5 until a reading of 0.5 dB or less is achieved.
6. Repeat as required for all wavelengths to be tested.

■ Optical Loss Measurement
Patch Panel to Patch Panel Test Method
1. Use the procedure in "Verifying Test Jumpers," to verify two test jumpers.
2. Use one of the verified jumpers to connect the CMA5 Series Power Meter to an optical light source.
3. Activate both units and set both to the desired test wavelength.
4. Set the CMA5 Series Power Meter to dBm mode. The measured level should closely match the output level specified for the optical light source, if not clean the connections again or check for bends in the fiber.
5. Press the Ref key on the CMA5 Series Power Meter until the display reads "HELD".
6. Reverse the connections and set the CMA5 Series Power Meter to dBm mode. If the level displayed is 0.5 dB, the jumper is good and will provide a valid test. Otherwise clean the connectors or, if necessary, replace the jumper and repeat steps 4 and 5 until a reading of 0.5 dB or less is achieved.
7. Repeat as required for all wavelengths to be tested.
**Auto Zeroing**

Use the following procedure to auto zero the unit:

1. Cover the attached fiber connector cap with its dust cap. This will prevent ambient light from entering the power meter's detector.
2. Power up the unit.
3. Press the Zero key until the display reads "000C", indicating successful auto zeroing.

**NOTE:** If the display reads "ERR", auto zeroing is not successful. Make sure that the dust cap and connector adapter are securely in place, then press and hold the Zero key again. If all else fails, contact Anritsu Technical Support (see page 15 for details).

**Maintenance**

The CMA5 Series Power Meters requires no periodic maintenance other than replacing the battery and periodic calibration (once every 3 years).

**Battery Replacement**

Under normal use one 9 volt alkaline battery will provide a minimum of 40 hours of continuous use.

To replace the battery:

1. Remove the unit from its protective boot by pulling down on the bottom of the boot to release the unit. Then slide the unit out of the boot.
2. Open the battery compartment, located on the lower back side of the unit, by pressing down on the arrow on its cover and sliding the cover off.
3. Replace the battery with a fresh 9 volt alkaline battery.
4. Replace the battery cover.
5. Replace the protective boot.

**Calibration**

The recommended calibration interval on the CMA5 Series Power Meters is every 3 years.

**General Care**

To avoid damage to the CMA5 Series Fiber Optic Power Meters, do not use cable connectors that are dirty or damaged. A dust cap is provided for the optical port, and should be in place at all times to prevent the ingress of foreign material from entering the port.

To clean the optical connectors, use only a small diameter non-cotton swab lightly moistened with isopropyl alcohol. Be sure to follow your company's procedures if different.

Clean the CMA5 Series Power Meter's body with a damp cloth. Do not use solvents or abrasives.

**Warranty Information**

Anritsu Corporation will repair this equipment free-of-charge if a malfunction occurs within three years after shipment due to a manufacturing fault:

- The fault is outside the scope of the warranty conditions separately described in the operation manual.
- The fault is due to mishandling, misuse, or unauthorized modification or repair of the equipment by the customer.
- The fault is due to severe usage clearly exceeding normal usage.
- The fault is due to improper or insufficient maintenance by the customer.
- The fault is due to natural disaster, including fires, wind, flooding, earthquake, lightning strike, or volcanic ash, etc.
- The fault is due to damage caused by acts of destruction, including civil disturbance, riot, war, etc.
- The fault is due to explosion, accident, or breakage of any other machinery, factory equipment or conveyance, etc.
- The fault is due to use of non-specified peripheral or applied equipment or parts, or consumables.
- The fault is due to use of a non-specified power supply or in a non-specified installation location.
- The fault is due to use in unusual environments (dust, etc.)
- The fault is due to activities or ingress of living organisms, such as insects, spiders, frogs, pollen, or seeds.

In addition, this warranty is valid only for the original equipment purchaser. It is not transferable if the equipment is resold.

Anritsu Corporation shall assume no liability for injury or financial loss of the customer due to the use of or failure to be able to use this equipment.

**NOTE:** For the purpose of this Warranty, "unusual environments" means use:

- In places of direct sunlight.
- In dusty places.
- In liquids, such as water, oil, or organic solvents, and medical fluids, or places where these liquids may adhere.
- In saline or in places where chemically active gases (sulfur dioxide, hydrogen sulfide, chlorine, ammonia, nitrogen dioxide, or hydrogen chloride etc.) are present.
- In places where high-intensity static electric charges or electromagnetic fields are present.
- In places where abnormal power voltages (high or low) or instantaneous power failures occur.
- In places where condensation occurs.
- In the presence of lubricating oil mists.
- In the presence of frequent vibration or mechanical shock, such as in cars, trains, or airplanes.

**EMC**

The CMA5 Series Power Meters are Class A products with respect to radiated and conducted emissions. In a domestic environment, it is possible that this product may cause radio interference, in which case the user may be required to take suitable measures. Such measures may include repositioning or realignment of the product.

In order to reproduce EMC compliant operation as tested, the user must:

- Only use the optional AC adapter available from Anritsu for use with this product.

**NOTE:** EMC and Safety Compliance of this product assumes that the unit is operated from battery power while taking measurements.

**Electrical Safety**

To reduce risk of equipment damage, injury or death, adhere to the following warnings:

- Do not use the CMA5 Series Fiber Optic Power Meter or the optional AC adapter if the CMA5 Series Fiber Optic Power Meter or the optional AC adapter’s case is cracked or damaged.
- Use the CMA5 Series Fiber Optic Power Meters only with the optional AC adapter available from Anritsu for the CMA5 Series Fiber Optic Power Meters. Anritsu does not guarantee the safety and functionality of other AC adapters.
- The CMA5 Series Fiber Optic Power Meters optional AC adapter is not intended for use in domestic or non-domestic environments.
- Ensure that the AC input to the optional AC adapter is within the voltage marked on the power supply's case.
- Do not attempt to service the product in any way other than the routine maintenance as described in this manual.

**Batteries**

Battery may contain lead, cadmium, lithium or other toxic substances. Batteries must be disposed of, or recycled, in accordance with their label instructions and local regulations.

**Recycling**

After this product has served its purpose, it should be recycled according to local regulations. In the European Union, the WEEE (Waste Electrical and Electronic Equipment) Directive 2002/96/EC specifies that electronic waste be returned to a recycling center for dismantling and reuse of materials. Please contact your Anritsu representative for dispositions as to disposal of Anritsu products for area.