



User's Manual

SUN-HMS200/400

Fiber Microscope

English

Table: SUN-UM-TL-HMS001

Version: A/0

User Safety Warning



DO NOT use the fiber microscope to view active fiber signals under ANY circumstances. Active fiber signals contain laser light, and direct eye contact with laser light should be avoided. The failure to avoid direct eye contact with laser light can result in serious damage to the eye. The Fiber Microscope may magnify the laser light in active fiber signals; direct eye contact with magnified laser light should be avoided. Laser safety filters, as used on the Fiber Microscope, are no substitute for practicing good laser safety. If you are unfamiliar with laser safety practices, seek out professional training. There are many capable trainers working in the fiber optic field who can help.



Figure 1

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1 Brief Introduction

Sun Telecom SUN-HMS200/400 handheld fiber optic microscope utilizes a white light LED for coaxial illumination. Light is introduced into the optical path (axis) so that it comes out the tip of the objective lens and strikes the ferrule perpendicular to the end face. This method of illumination produces a high level of resolution, providing excellent detail of scratches and contamination.

2 Specification

Parameters	Specifications	
Models	SUN-HMS200	SUN-HMS400
Optical Magnification	200X	400X
Power Requirements	3 “AAA” alkaline batteries	
Light Source	White LED, rated for 100,000 hours	
Controls	Momentary on/off switch for light source and fine-focus control wheel	
Laser Safety Filter	Built-in IR filter	
Adapter Interface	2.5mm universal male adaptor and 1.25mm universal male adaptor included	
Weight (kg)	0.6	
Dimensions (mm)	225 X 60 X 35	

3 Setup

The Fiber Microscope comes fully assembled and requires only a few steps before it is ready to use.

- 1) Begin by removing the instrument from its case.
- 2) You'll need to insert 3 “AAA” batteries. Unscrew and remove the "Battery Cap". Insert the batteries with the "-" side up towards the Battery Plug; "+" side down towards the Light Switch (see Figure 2). Replace the Battery Cap and tighten.
- 3) If you have purchased the Fiber Microscope with a Universal Adapter, it

should already be in place and your instrument is ready to use. If you purchased an adapter separately, simply screw it into the threaded hole at the opposite end from the light Switch. Your instrument is ready to use.

4 Operation

In this manual, we will explain general use of the Fiber Microscope. However, it is important to read the specific termination instructions published by the manufacturer of the connector you are using. This will ensure proper termination. Also be sure you have read the User Safety Warning and fully understand that direct eye contact with laser light and magnified laser light should be avoided.

- 1) Begin by loading the polished connector into the adapter.
 - If you have purchased our Universal Adapter, simply slide the connector ferrule (2.5mm) into the hole until you feel it hit a stop.

Note: It may require a little pressure to get it started as our Universal adapter is equipped with a no-slip gripping mechanism; it is important to slide the connector ferrule all the way to the end. This will minimize any refocusing that needs to be done when changing from one connector to the next.
 - If you have purchased one of the dedicated adapters, insert the connector just as you would into a patch bay or mated connector.
- 2) Now turn the light on. The light works by pressing and holding the light Switch in. You can tell whether the light is on by checking the "Backlight Window". If the light passes through this window, you are ready to work.
- 3) Once the connector is loaded and the light is on, hold the eyepiece up to your eye and begin focusing. Unlike many instruments of this type, the Fiber Microscope is always centered so there is no alignment to be done.

- 4) Then grip the focusing adjustment (brass wheel with rubber grip) and turn it to focus the image. Once you find the image, very little re-focusing is necessary if the connector is properly loaded.

Notes for the first use: Please use the microscope to focus the image; it may take a little longer to find the image.

- 5) Once you can visualize the connector ferrule, you can evaluate it for polish quality, cleave quality, and cleanliness optionally, you can hold the opposite end of a cable to the Backlight window to give further contrast to the core. Check with the manufacturer of your connector for further instructions.

5 Changing the Lamp

This microscope utilizes a white LED light source. The LED has a stated lamp life of over 100,000 hours. Therefore, you should never have to change the lamp. If you have problems with illumination, please call your sales person to arrange for repair.

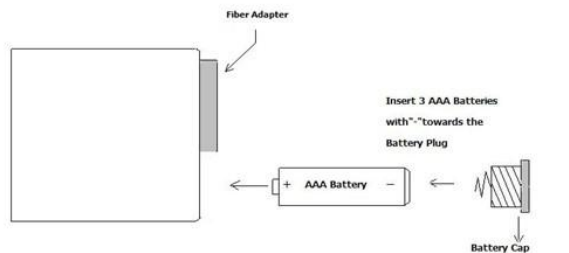


Figure 2

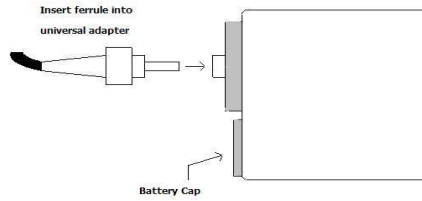


Figure 3

6 Maintenance

Keep this instrument dry and clean. It is built for durability and field use, but careful operation will greatly extend life.

7 Changing the Magnification

If you wish to change the magnification or have damaged one of the optical components, you will need to change either the eyepiece or the objective. Only the eyepiece is easily serviced by the user. If you need to change the objective, please contact your dealer for a service Return Authorization. Before you change the objective or eyepiece, determine which components you need using the following table.

Magnification	Eyepiece	Objectives
200	20	10
400	20	20

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