
ADVANTEST®

ADVANTEST CORPORATION

**INSTRUCTION
MANUAL**

Q84501/02/03/

05/06/21/22

PLUG-IN UNIT

MANUAL NUMBER 84501 OEC 809

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Q84501/02/03/05/06/21/22
PLUG-IN UNIT
INSTRUCTION MANUAL

Preface

PREFACE

This manual explains how to use the plug-in units for TQ8450 and TQ8450A (These are called mainframe).

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1. INTRODUCTION

This chapter explains the outline of plug-in unit and notes for the use. Read this chapter before using this unit.

1.1 Outline of the Plug-in Unit

TQ8450 and TQ8450A have employed a plug-in unit to expand a measurement function. By simply changing a plug-in unit, various fiber can be measured. The following seven plug-in units are provided for TQ8450 and TQ8450A.

Plug-in unit	Q84501	Q84502	Q84505
Wavelength	1.31 \pm 0.02 μ m	1.55 \pm 0.03 μ m	0.85 \pm 0.02 μ m
Fiber to be measured	Single Mode	Single Mode	Multi Mode

Plug-in unit	Q84506	Q84521	
Wavelength	1.31 \pm 0.02 μ m	1.31 \pm 0.02 μ m	1.55 \pm 0.03 μ m
Fiber to be measured	Multi Mode	Single Mode	

Plug-in unit	Q84503	Q84522	
Wavelength	1.55 \pm 0.03 μ m	1.31 \pm 0.02 μ m	1.55 \pm 0.03 μ m
Fiber to be measured	Single Mode	Single Mode	

CAUTION

The plug-in units; Q84501, Q84502, Q84505, Q84506 and Q84521 are applicable to TQ8450.

The plug-in units; Q84501, Q84502, Q84503, Q84505, Q84506, Q84521 and Q84522 are applicable to TQ8450A.

1.2 Before Using the Unit

1.2.1 Checking External View

When you receive the Q84501/02/03/05/06/21/22 plug-in unit, check whether it has suffered any external damage or scratching during transportation. If there is any external damage, or the unit does not operate as specified, contact your nearest representative or ADVENTEST office.

1.2.2 Operating Conditions and Precautions

(1) Ambient temperature

To operate this unit as designed, the ambient temperature must be 0°C to +40°C and the relative humidity must be 85% or less.

(2) Installation place

Do not install this unit in a place exposed to dust, vibration, direct sunlight, or corrosive gas, or place it on an unstable pedestal and so forth from which it might fall.

(3) Protection of eyes against laser beam

This unit uses a laser diode as a light source. Pay attention not to expose the eyes to the laser beam directly. Before connecting the fiber cable, check that the LED of the ON key in the OPTICAL OUTPUT section is off.

(4) Storage

The storage temperature is -20°C to +60°C. If this unit is not used for a long period, wrap it with a vinyl cover and put in a corrugated cardboard box. Store it in a place not exposed to dew condensation and direct sunlight.

(5) Dew condensation

This unit incorporates a lens. Pay attention to dew condensation caused by sudden temperature changes. If the surface of this unit is dewed, dry it well before use.

(6) Warm-up

Warm this unit up for more than 30 minutes for high accuracy.

2.1 Removal and Insertion of Plug-in Unit

2. PLUG-IN UNIT

This chapter explains for removal and insertion of plug-in unit and setting of pulse widths.

2.1 Removal and Insertion of Plug-in Unit

CAUTION

Before removing or inserting any plug-in unit, turn off the unit power without fail.

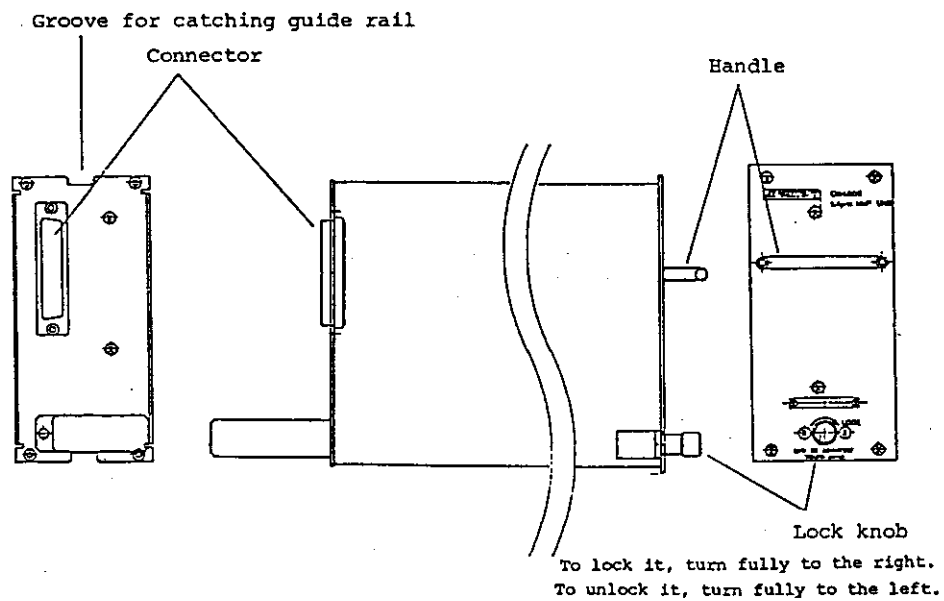


Figure 2-1 Plug-in Unit

2.1 Removal and Insertion of Plug-in Unit

- ① Insert the plug-in unit slowly into the opening of the rear panel of mainframe so that its upper and lower grooves catch the guide rails inside the opening.
- ② Push the plug-in unit so that its front connector is connected securely, and so that the laser output connector shutter projecting on the front panel can be opened and closed freely without touching the front panel.
- ③ Turn the lock knob fully to the right for locking.
- ④ Pull the handle to check that the plug-in unit is locked.
 - To remove the plug-in unit, turn the lock knob counterclockwise and pull the handle.

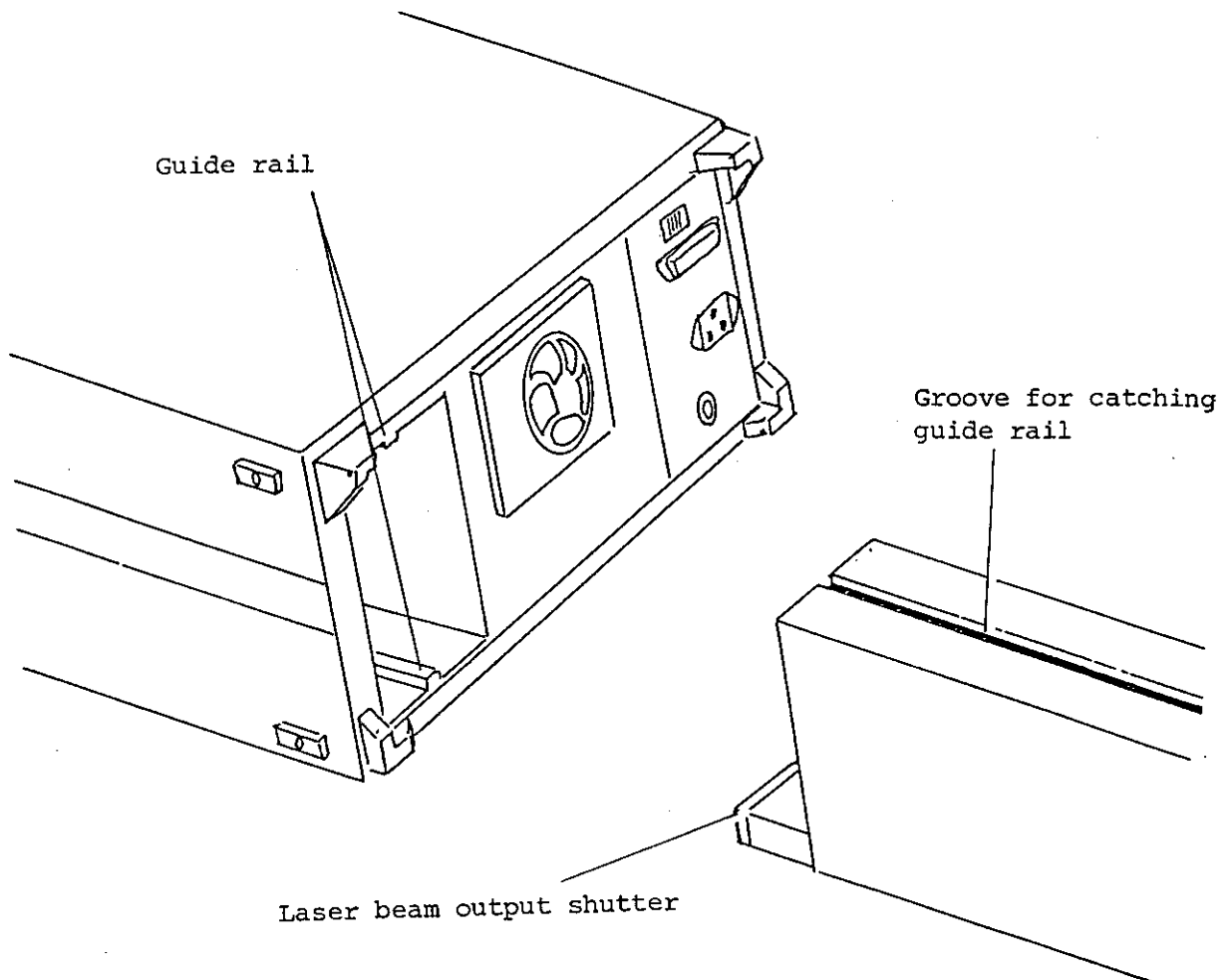


Figure 2-2 Removal and Insertion of Plug-in Unit

2.2 Setting the Pulse Width

The pulse width to be set differs depending on types of plug-in unit. The suitable plug-in units are shown below.

Q84501/02/06/21	5 μ s, 1 μ s, 200ns, 50ns
Q84505	1 μ s, 200ns, 50ns, 10ns
Q84503/22	10 μ s, 1 μ s, 200ns, 50ns

When a pulse width of 5 μ s or 1 μ s is selected, the resolution is impaired at the connection or splice point but the dynamic range is wide; it is suitable for measuring long- and medium-distance fiber cable. Pulse widths of 200ns and 50ns are suitable for high-resolution measurement.

2.3 Setting the DISTANCE RANGE

The DISTANCE RANGE setting differs depending on types of plug-in unit. The suitable plug-in units are shown below.

Q84501/02/03/06/21/22	128km, 64km, 32km, 16km, 8km, 4km
Q84505	32km, 16km, 8km, 4km

2.4 The Plug-in Connector Cleaning

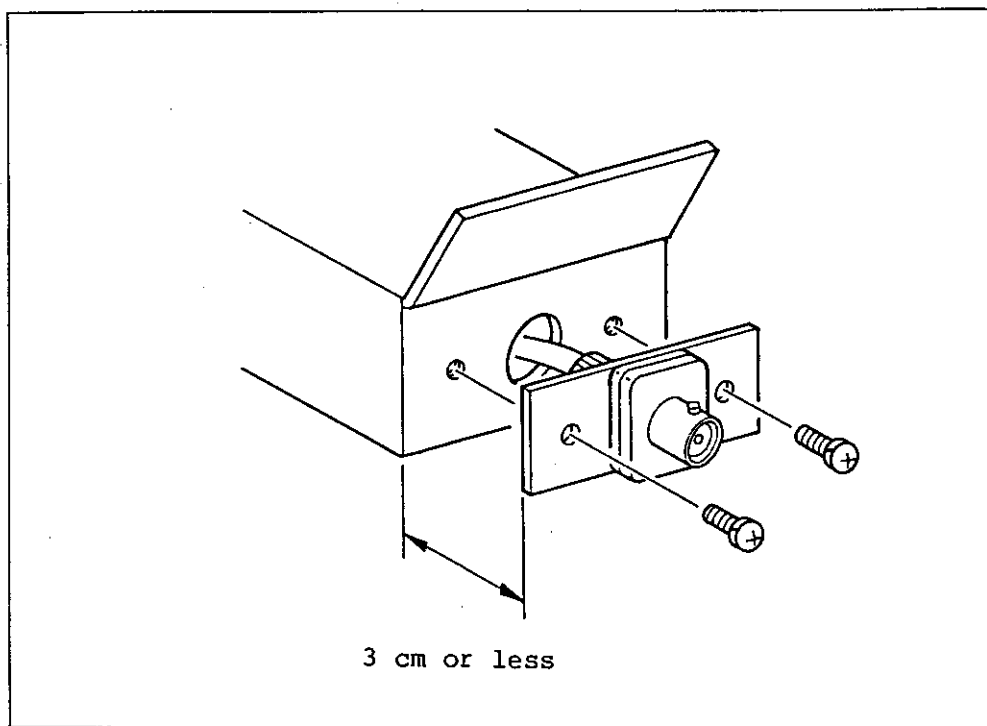
2.4 The Plug-in Connector Cleaning

Dust of the plug-in connector may reduce the dynamic range. Plug-in connector can be pulled out by removing two screws as shown below. Detach the plug-in connector from the adapter and wash the flank with ethanol.

Note that the length which the plug-in connector is pulled out does not exceed 3 cm.

Caution

Never use any cleaner other than alcohol for the maintenance of this equipment. Organic solvent such as benzene, toluene or acetone may spoil the plastic parts of this equipment.



3. SPECIFICATIONS

Q84501/Q84502/Q84505/Q84506/Q84521

Mainframe		TQ8450, TQ8450A											
Plug-in unit model name		Q84501				Q84502				Q84505			
Suitable fiber		SMF				SMF				MMF			
Probe pulse	Wavelength (μm)	1.31 \pm 0.02				1.55 \pm 0.03				0.85 \pm 0.02			
	Pulse width (μs)	0.05	0.2	1	5	0.05	0.2	1	5	0.01	0.05	0.2	1
Dynamic range (single-sided back-scattering)		13	16	20	23	10	13	17	20	11	15	18	22
Mask function		Provided (optical)								Not provided			
Optical connector		FC ¹⁾											
Laser product classification		21 CFR Class 1											

Mainframe		TQ8450A											
Plug-in unit model name		Q84506						Q84521					
Suitable fiber		MMF						SMF					
Probe pulse	Wavelength (μm)	1.31 \pm 0.02						1.31 \pm 0.02/1.55 \pm 0.03 Selectable					
	Pulse width (μs)	0.05	0.2	1	5	0.05	0.2	1	5				
Dynamic range (single-sided back-scattering)		13	17	21	24	12/10	15/13	19/17	22/20				
Mask function		Provided (optical)											
Optical connector		FC ¹⁾											
Laser product classification		21 CFR Class 1											

- 1) If you use a connector other than FC, contact us to arrange an interfacing.

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3. SPECIFICATIONS

Q84503/Q84522

Mainframe		TQ8450, TQ8450A							
Plug-in unit model name		Q84503				Q84522			
Suitable fiber		SMF				SMF			
Probe pulse	Wavelength (μm)	1.55 \pm 0.03				1.31 \pm 0.02/1.55 \pm 0.03 Selectable			
	Pulse width (μs)	0.05	0.2	1	10	0.05	0.2	1	5
Dynamic range (single-sided back-scattering)		16	19	22	27	17/14	20/17	23/20	28/25
Mask function		Provided (optical)							
Optical connector		FC ¹⁾							
Laser product classification		21 CFR Class 1							

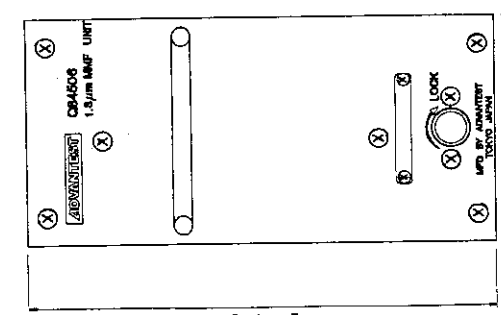
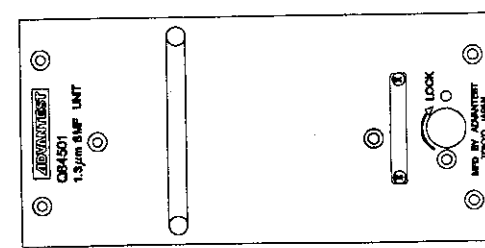
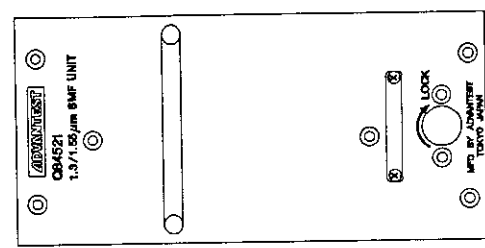
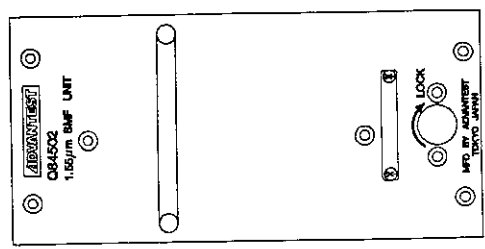
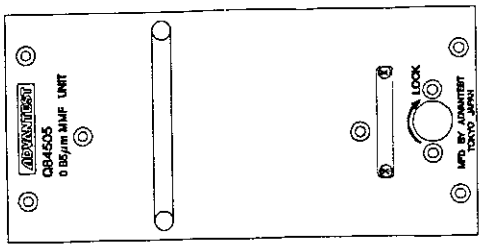
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Unit : mm

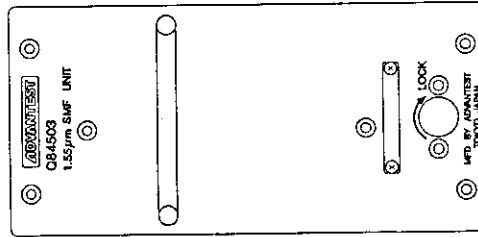
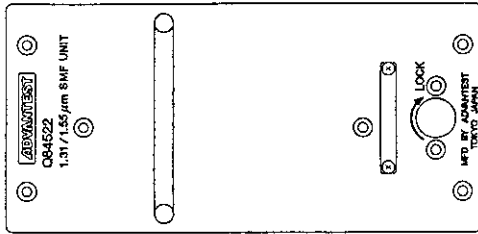
Q84501/502/505/506/521

EXTERNAL VIEW

84501EXT1-807-A

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EXTERNAL VIEW

84501EXT2-808-A

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