MP1570A1

SONET/SDH/PDH/ATM Analyzer

Operation Manual

Eighth Edition

- **For safety and warning information, please read this manual before attempting to use the equipment.**
- **Additional safety and warning information is provided within the MP1570A SONET/SDH/PDH/ATM Analyzer Operation Manual first. Please also refer to this document before using the equipment.**
- **Keep this manual with the equipment.**

ANRITSU CORPORATION

Safety Symbols

To prevent the risk of personal injury or loss related to equipment malfunction, Anritsu Corporation uses the following safety symbols to indicate safety-related information. Ensure that you clearly understand the meanings of the symbols BEFORE using the equipment. Some or all of the following symbols may be used on all Anritsu equipment. In addition, there may be other labels attached to products that are not shown in the diagrams in this manual.

Symbols used in manual

DANGER ⚠ This indicates a very dangerous procedure that could result in serious injury or death if not performed properly.
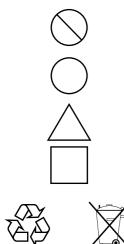
WARNING ⚠ This indicates a hazardous procedure that could result in serious injury or death if not performed properly.

CAUTION ⚠ This indicates a hazardous procedure or danger that could result in light-to-severe injury, or loss related to equipment malfunction, if proper precautions are not taken.

Safety Symbols Used on Equipment and in Manual

The following safety symbols are used inside or on the equipment near operation locations to provide information about safety items and operation precautions. Ensure that you clearly understand the meanings of the symbols and take the necessary precautions BEFORE using the equipment.
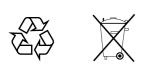
This indicates a prohibited operation. The prohibited operation is indicated symbolically in or near the barred circle.

This indicates an obligatory safety precaution. The obligatory operation is indicated symbolically in or near the circle.

This indicates a warning or caution. The contents are indicated symbolically in or near the triangle.

This indicates a note. The contents are described in the box.

These indicate that the marked part should be recycled.

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Operation Manual

11   January   2001 (First Edition)
14   December   2007 (Eighth Edition)

Equipment Certificate

Anritsu Corporation certifies that this equipment was tested before shipment using calibrated measuring instruments with direct traceability to public testing organizations recognized by national research laboratories, including the National Institute of Advanced Industrial Science and Technology, and the National Institute of Information and Communications Technology, and was found to meet the published specifications.

Anritsu Warranty

Anritsu Corporation will repair this equipment free-of-charge if a malfunction occurs within one year after shipment due to a manufacturing fault, under the condition that this warranty is void when:

- The fault is outside the scope of the warranty conditions 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 fire, flooding, earthquake, etc.
- The fault is due to use of non-specified peripheral equipment, peripheral parts, consumables, etc.
- The fault is due to use of a non-specified power supply or in a non-specified installation location.

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 a failure to be able to use this equipment.

Anritsu Corporation Contact

In the event that this equipment malfunctions, contact an Anritsu Service and Sales office. Contact information can be found on the last page of the printed version of this manual, and is available in a separate file on the CD version.

Notes On Export Management

This product and its manuals may require an Export License/Approval by the Government of the product's country of origin for re-export from your country.

Before re-exporting the product or manuals, please contact us to confirm whether they are export-controlled items or not.

When you dispose of export-controlled items, the products/manuals need to be broken/shredded so as not to be unlawfully used for military purpose.

Crossed-out Wheeled Bin Symbol

Equipment marked with the Crossed-out Wheeled Bin Symbol complies with council directive 2002/96/EC (the "WEEE Directive") in European Union.

For Products placed on the EU market after August 13, 2005, please contact your local Anritsu representative at the end of the product's useful life to arrange disposal in accordance with your initial contract and the local law.

CE Conformity Marking

Anritsu affixes the CE conformity marking on the following product(s) in accordance with the Council Directive 93/68/EEC to indicate that they conform to the EMC and LVD directive of the European Union (EU).

CE marking

$$C\,\epsilon$$

1. Product Model

Model:　　　　　　　MP1570A1 SONET/SDH/PDH/ATM ANALYZER

2. Applied Directive

EMC:　Directive 2004/108/EC

LVD:　Directive 2006/95/EC

3. Applied Standards

- EMC: Emission: EN 61326: 1997 + A1: 1998 + A2: 2001 + A3: 2003
  (Class A)

  Immunity: EN 61326: 1997 + A1: 1998 + A2: 2001 + A3: 2003
  (Annex A)

	Performance Criteria*
IEC 61000-4-2 (ESD)	B
IEC 61000-4-3 (EMF)	A
IEC 61000-4-4 (Burst)	B
IEC 61000-4-5 (Surge)	B
IEC 61000-4-6 (CRF)	A
IEC 61000-4-11 (V dip/short)	B

*: Performance Criteria

A: During testing, normal performance within the specification limits.

B: During testing, temporary degradation, or loss of function or performance which is self-recovering.

Harmonic current emissions:

EN 61000-3-2: 2000 + A2: 2005 (Class A equipment)

- LVD: EN 61010-1: 2001 (Pollution Degree 2)

4. Authorized representative

Name: Loic Metais

        European Quality Manager

        ANRITSU S.A. France

Address, city: 16/18 Avenue du Québec SILIC 720 Zone de

        Courtaboeuf

        91951 Les Ulis Cedex

Country: France

C-tick Conformity Marking

Anritsu affixes the C-tick mark on the following product(s) in accordance with the regulation to indicate that they conform to the EMC framework of Australia/New Zealand.

C-tick marking

✔N274

1. Product Model

Model: MP1570A1 SONET/SDH/PDH/ATM ANALYZER

2. Applied Standards

EMC:Emission: EN 61326: 1997 + A1: 1998 + A2: 2001 + A3: 2003
(Class A equipment)

Table of Contents

II.

1. Preface

This Operation Manual describes the MP1570A1 functions and changes newly added to the MP1570A.

Refer to the MP1570A Operation Manual for other functions.

2. Overview

2.1   New Functions on MP1570A1

For the MP1570A1, one slot (the upper most) has been added to the right side of the MP1570A to enable the SDH/SONET mapping and PDH/DSn bit rate without any unit replacement at 2.5-G and 10-G configurations.

2.2   MP1570A1 Functions Common to MP1570A

As described above, the MP1570A1 is the MP1570A with one slot added.

All other functions are exactly the same as the MP1570A.

Files saved on the MP1570A or remote control programs written for it can be used as is for the MP1570A1.

2.3   Options for MP1570A1

The same options as for the MP1570A are available for the MP1570A1.

Option numbers and names are the same as those for the MP1570A.

An option comparison table for the MP1570A/MP1570A1 is shown below.

Option Comparison Table

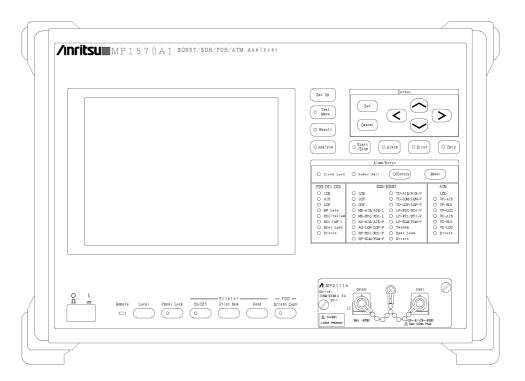| Option Model No.		Option Name
MP1570A	**MP1570A1**	
MP1570A-01	MP1570A1-01	RS-232C
MP1570A-02	MP1570A1-02	GPIB
MP1570A-22	MP1570A1-22	K1/K2 Overwrite Through

2.4   Display on Screen, Printer and FD of MP1570A1

The MP1570A1 uses the same program as the MP1570A for screen display.   Therefore, "MP1570A" appears on the MP1570A1 screen.

Please, replace "MP1570A" with "MP1570A1".   This also applies to printers (built-in/external) and FDs.

3.   Appearance, Dimensions and Mass

3.1   Front View

3.2   Rear View

3.3　Right Side View 1 (for 10-G configuration)

Note:

The top-most slot is dedicated to the MP0122A/B.

Do not insert any unit other than the MP0122A/B.

3.4　Right Side View 2 (for 2.5-G configuration)

Note:

The top-most slot is dedicated to the MP0122A/B.

Do not insert any unit other than the MP0122A/B.

3.5   Left Side View

3.6   Top View

3.7   Dimensions and Mass
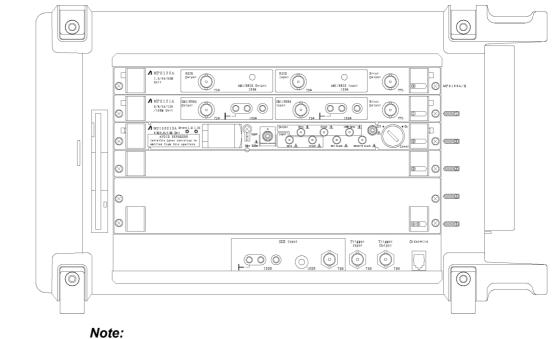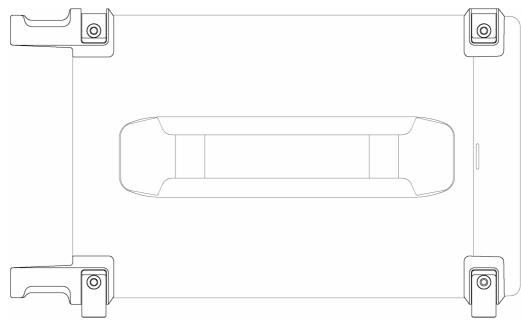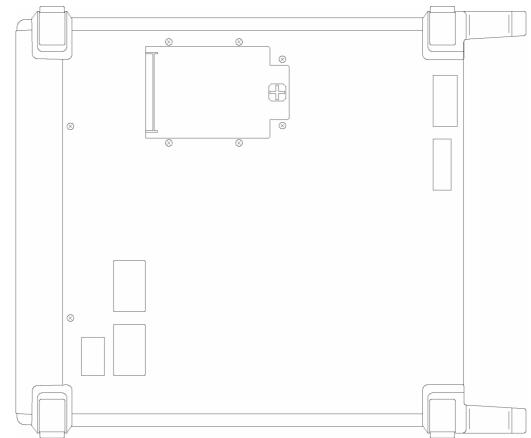
Dimensions: 222 mm (H), 320 mm (W), 350 mm (D)   Excluding protrusions

Mass: ≤15 kg   Without unit

4. Plug-in Units

4.1 Units that can be Inserted in the MP1570A1

All units that can be inserted in the MP1570A can also be inserted in the MP1570A1.

4.2 Additional Slot

The slot added to the MP1570A1 is dedicated to the MP0122A/B. Do not insert any other unit in it.

The units that can be inserted into the each slot are shown below.

Plug-in Unit Insertion Slots

Unit	Dedicated Slot to MP0122A/B	Slot1	Slot2	Slot3	Slot4/5	Front
MP0121A	—	○	—	—	—	—
MP0122A/B	○	○	○	—	—	—
MP0123A	—	—	—	○	—	—
MP0124/5/6A	—	—	—	—	○	—
MP0127/8/9A	—	○	○	—	—	—
MP0105A	—	—	—	—	—	○
MP0108A	—	—	—	—	—	○
MP0111/2/3A	—	—	—	—	—	○
MP0130A	—	—	—	○	—	—
MP0131A	—	○	○	—	—	—
MU150000A	—	—	—	—	○	—
MU150001A	—	—	—	○	—	—
MU150002A	—	—	○	—	—	—
MU150005/06/07A	—	—	—	—	○	—
MU150008/09/10A	—	—	○	—	—	—
MU150011A	—	—	—	○	—	—

Dedicated Slot to MP0122A/B: The added slot

Only one unit per type can be inserted.   Restrictions on combinations of units are the same as those for the MP1570A.

Note 1:

Select and use either the Dedicated Slot to MP0122A/B or Slot 1.   (For the selection, see "5.   Additional Functions and Remote Commands").   This means that the functions for units inserted into the Dedicated Slot to MP0122A/B and Slot 1 cannot be used at the same time.

Note 2:

For the two conditions of the unit insertion, shown below, they may not be activated. In these conditions, mount any unit into the not-inserted slot.   (See the table of "Plug-in Unit Insertion Slot" in paragraph 4.2 for the unit that can be inserted.)

- Dedicated Slot to MP0122A/B: MP0122A/B
  Slots 1 to 5: No unit is inserted.
  Front slot: No interface unit is inserted.

- Dedicated Slot to MP0122A/B: No unit is inserted.
  Slot 1: MP0121A
  Slots 2 to 5: No unit is inserted.
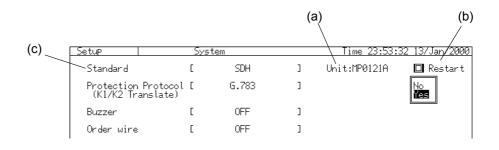 Front slot: No interface unit is inserted.

5. Additional Functions and Remote Commands

5.1   Explanation of the Screen for Additional Functions

Switching the slots:

The units inserted into Slot 1 and the Dedicated Slot to MP0122A/B on the side of the MP1570A1, can be switched on the screen for use.

(Check that both the MP0121A unit and the MP0122A/B unit are inserted into their own slot, correctly.)

```
                                                (a)                        (b)
 (c)    ┌─────────┬──────────┬──────────────────────────────────┐
        │ Setup   │  System  │         Time 23:53:32 13/Jan/2000 │
        │ Standard       [      SDH      ]   Unit:MP0121A  ☐ Restart │
        │                                                 ┌───┐   │
        │ Protection Protocol [    G.783   ]              │No │   │
        │  (K1/K2 Translate)                              │Yes│   │
        │                                                 └───┘   │
        │ Buzzer         [      OFF      ]                        │
        │                                                        │
        │ Order wire     [      OFF      ]                        │
        └────────────────────────────────────────────────────────┘
```

(a) : Displays the unit that is currently being used in either the MP0122A/B slot or Slot 1.

(b) : Switches the unit between the units in the MP0122A/B slot and Slot 1.

(c) : Switches the display between the SDH and SONET displays.

The procedure to switch the unit is shown below.

(1)   Display the "Set up: System" screen.

(2)   Move the cursor to the [☐ Restart] button, and then press the [Set] key.

(3)   The window for Yes/No selection appears.

(4)   Select [Yes], and then press the [Set] key.

When the above procedure is completed, the MP1570A1 restarts and updates the settings.

When both Option 10 (SDH) and Option 11 (SONET) are mounted, you can switch the Standard between SDH and SONET with the Standard (c) in the figure above.

The setting for Standard function is linked to the unit to be used, and updated after restart.

Notes:

- The setting for Standard function is not linked to the unit, when the MP0131A is inserted into Slot 1.

- A "No Unit" display for Unit: of (a) in the figure above, indicates that the unit to be used is not inserted.

5.2   Explanation of the Additional Remote Command

The units inserted into Slot 1 and the Dedicated Slot to MP0122A/B can be switched by using a remote function on a PC.   The switching command is shown below.

Command name:
:INSTrument:UReset

Parameter: None

Function: Switches between the units inserted into Slot 1 and the Dedicated Slot to MP0122A/B on the right side of the MP1570A1.
After sending this command, the MP1571A1 restarts to update the settings. (The remote mode is released after restart.)

Use example: Switching the unit.
> :INSTrument:UReset

10.