Leading Company, **ACEWAVETECH**

Expandable PIMD

The introduction of Equipment

09. Feb. 2015

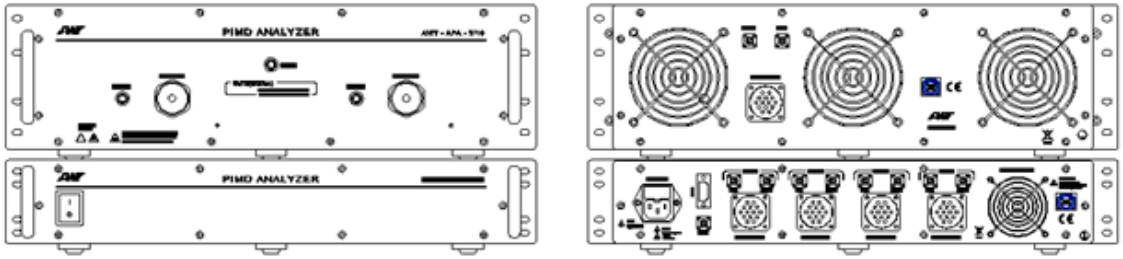
AWT Co., Ltd.

Content

1. Introduction of PIMD

❖ Introduction

➢ AWT's PIMD Analyzer is designed to measure PIM (Inter-Modulation Distortion) with reverse and forward method that occurs from the passive components including antenna, filter, cable, and connector, etc.



< FRONT >

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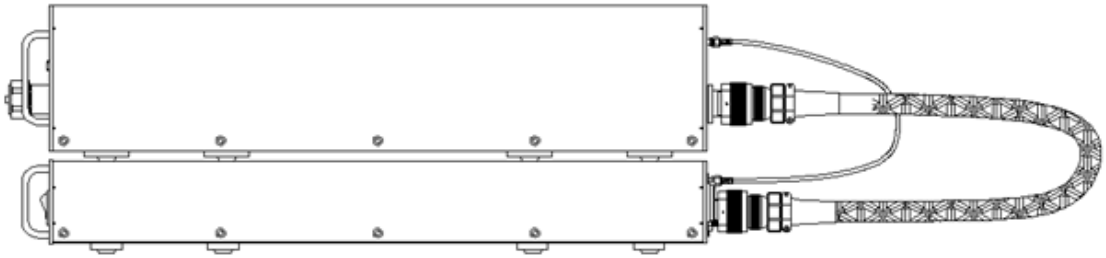

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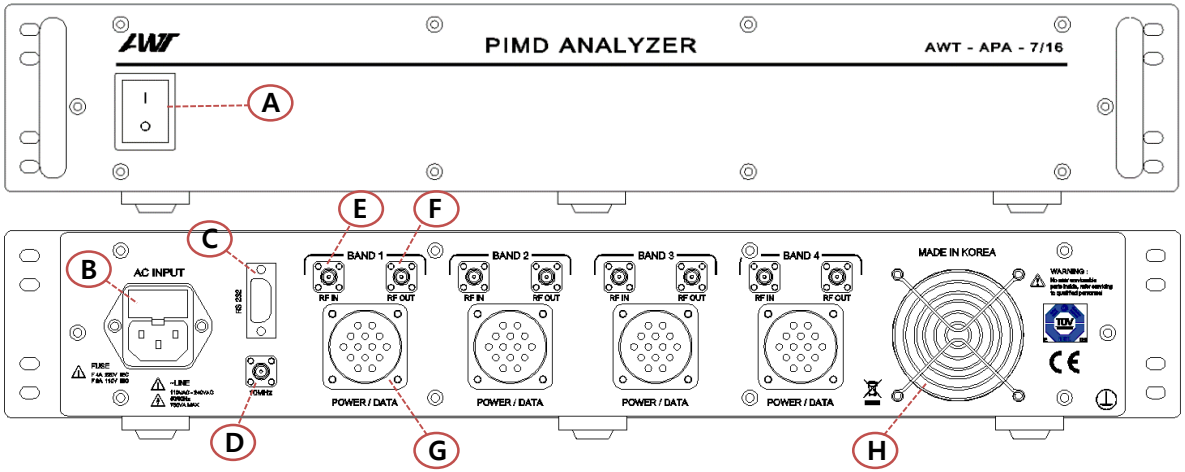
2. Composition of PIMD Analyzer

❖ Main Control Unit



A) Front main switch : Main power switch for the unit
B) AC INPUT : AC Power input (ACV100 ~ 240)
C) RS 232 : Connects to RS232 port in Laptop
D) 10MHz : RX calibration connection terminal (used for unit calibration)
E) RF IN(SMA conn.) : Connects RF OUT (SMAA conn.) terminal on RF Rack (Band Unit) of appropriate band.
F) RF OUT(SMA conn.) : Connects RF IN (SMAA conn.) terminal on RF Rack (Band Unit) of appropriate band.
G) POWER/DATA(MS conn.): Connects POWER / DATA (MS conn.) terminal on RF Rack (Band Unit) of appropriate band.
H) FAN

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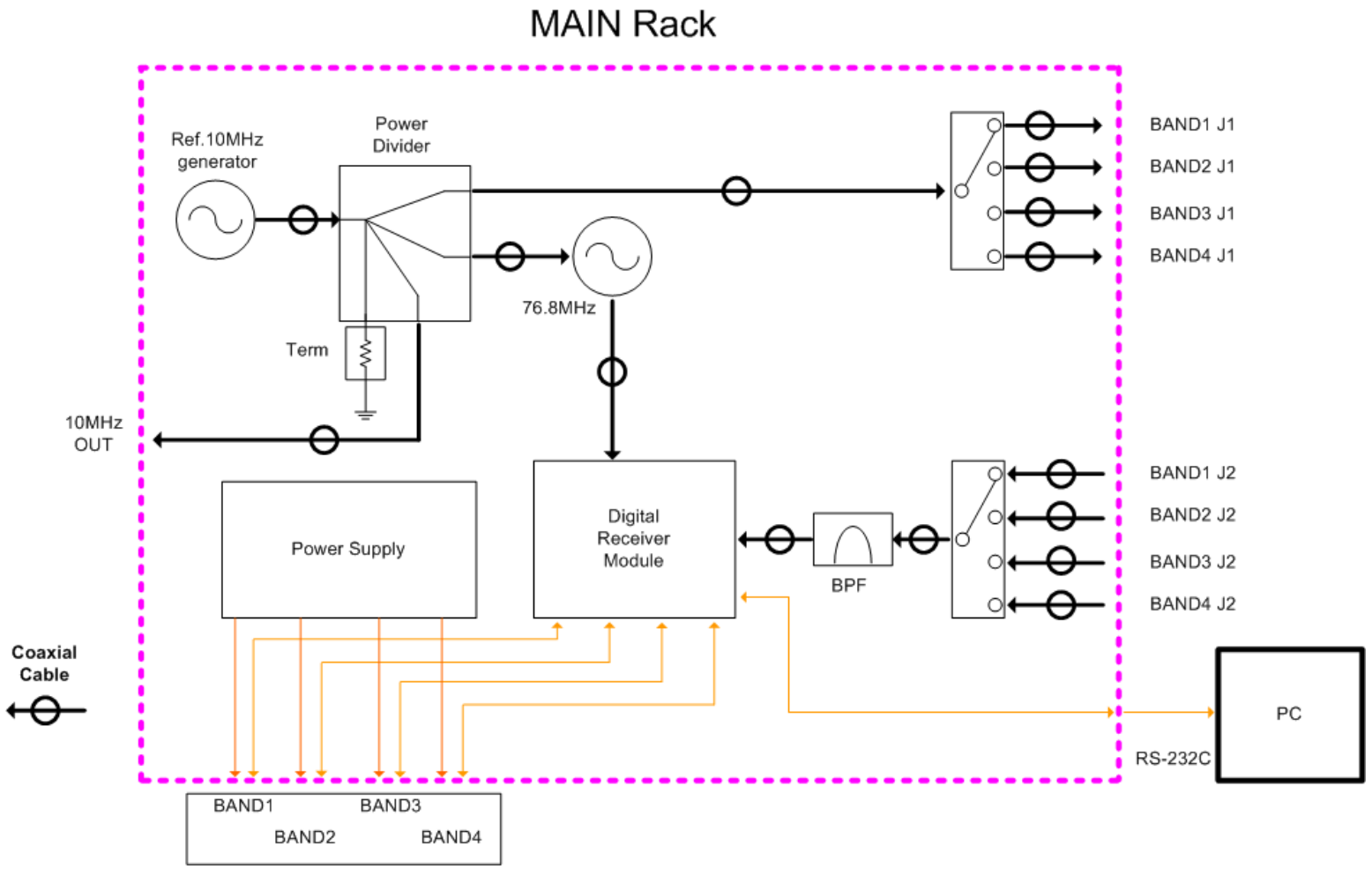
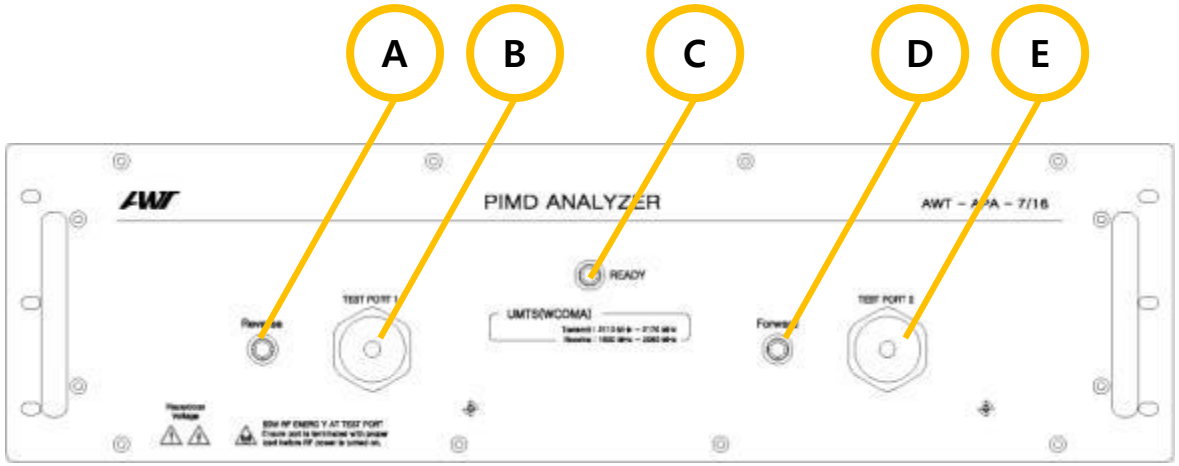
2. Composition of PIMD Analyzer

❖ Main Control Unit Block Diagram



2. Composition of PIMD Analyzer

❖ RF BAND Unit (Front)



A) 'Reverse' (Green LED) : Reverse RF ON (Lighting at the Reverse output in the operating application)
B) TEST PORT 1' (DIN conn.) : TX output and Reflected PIM Input terminal
C) 'READY' (Orange LED) : Lighting at the start-up of operating application for the appropriate band
D) 'Forward' (Green LED) : Forward RF ON (Lighting at Forward output in the operating application)
E) TEST PORT 2' (DIN conn.) : Through PIM input terminal

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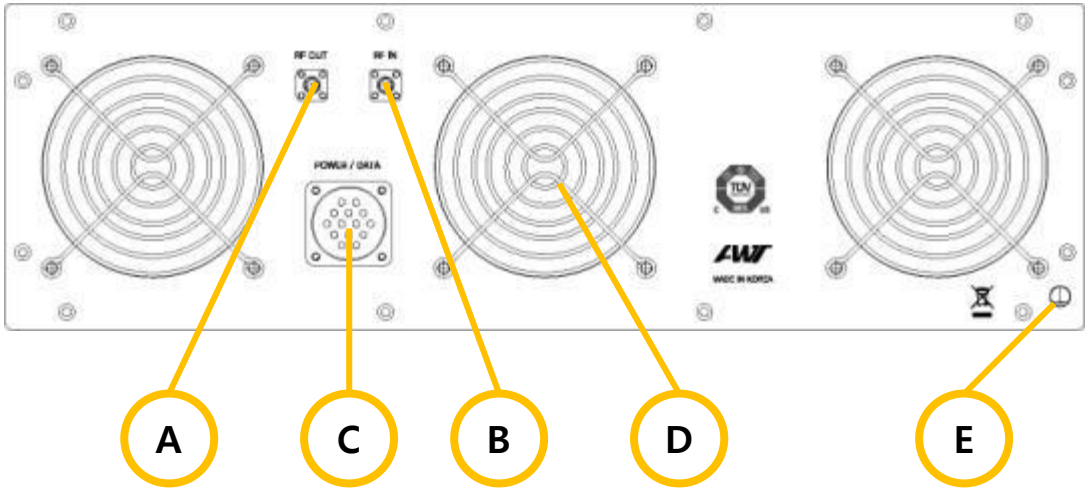
2. Composition of PIMD Analyzer

❖ RF BAND Unit (Front)



A) RF OUT(SMA conn.): Connects the appropriate band (RF IN) terminal on Main Rack (Control Unit)
B) RF IN(SMA conn.): Connects the appropriate band (RF OUT) terminal on Main Rack (Control Unit)
C) POWER/DATA(MS conn.) : Connects the appropriate band (POWER / DATA)
terminal on Main Rack (Control Unit)
D) FAN
E) Ground

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3. Specification of PIMD Analyzer

❖ Expendable PIMD Analyzer Specifications

➢ Transmitter(Tx) Spec.

– Frequency Increment/Decrement	200KHz
– Frequency Accuracy	±2ppm typical ±5ppm maximum
– Frequency Setting Time	1ms typical
– Carrier power Adjustable Range	+20dBm ~ +44dBm
– Carrier Power Increment/Decrement	0.25dB
– Carrier Power Accuracy	±0.35dB (at ALC ON)
– Reverse Power Protection	43dBm

➢ Receiver(Rx) Spec.

– Average Noise Floor	–138dBm (for 300Hz Filter)
– Dynamic Range	96dB, typical
– Accuracy	0.35dB
– Effective IF Bandwidth	300, 600, 1.2K, 2.4K, 5K, 10K, 12K, 15K, 25K, 50KHz
– Maximum Survival Input Power Level	–10dBm
– Measurement Interval	124ms ~ 350ms, typical

➢ Power Requirements

– Required Power	110 ~ 240VAC, 50~60Hz
– Consumed Power	0.75KW maximum

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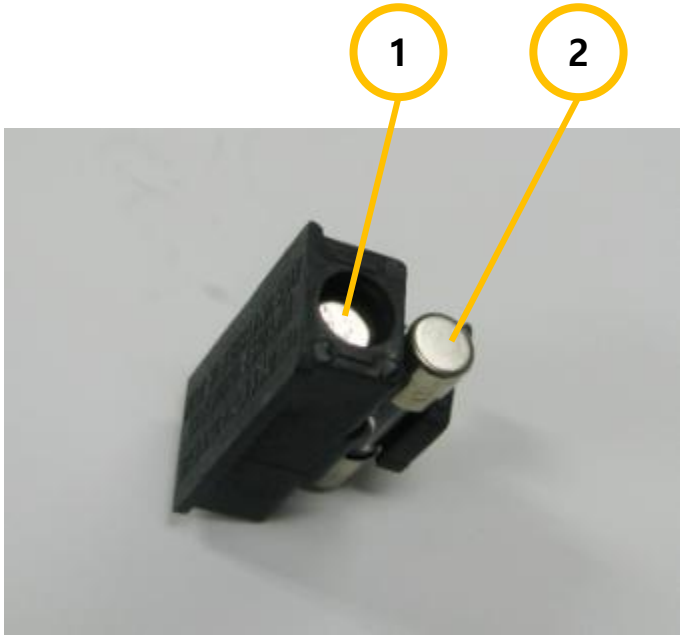
4. Change of FUSE

❖ FUSE Specification and Replacement



1. **Spare Fuse**
2. **Used Fuse**

➢ For 100 ~ 120 VAC power
Voltage : 120VAC
Current : 8A
Response Speed : Fast Acting Type
Dimension : 5.3 mm(diameter) * 20 mm (length)
Quantity: 1

➢ For 210 ~ 240VAC Power
Voltage: 250VAC
Current : 4A
Response Speed : Fast Acting Type
Dimension : 5.3 mm (diameter) * 20 mm (length)
Quantity : 1

➢ To replace FUSE
- Remove AC power cable at rear panel of PIMD Analyzer.
- Open the cover of FUSE on PIMD Analyzer.
- Remover the FUSE from FUSE holder in PIMD Analyzer
- Check the specification of FUSE to be replaced
- Insert the FUSE in FUSE Holder.
- Close the FUSE cover.

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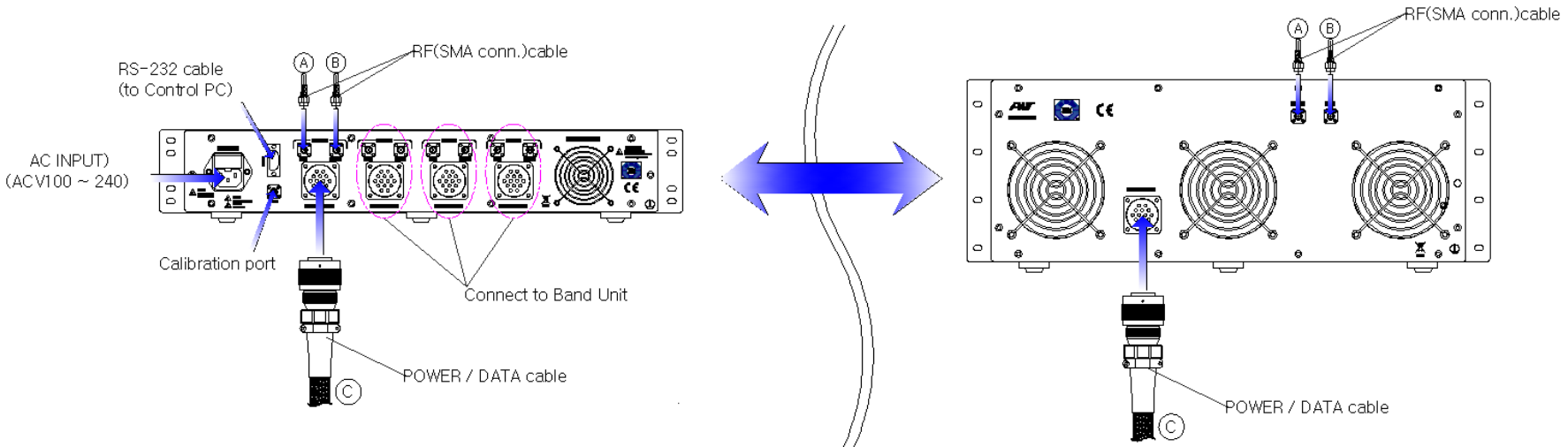
5. Installation of PIMD Analyzer

❖ Precautions before installation

- The area to install has to be a safe place to avoid the moist and confined high temperature and ventilated well as well as there is no risk to explode and vibrate.
- Ensure that there is input power terminal (ACV100 ~ 240, 50/60 Hz) and ground for the unit in the installation place.
- When shipping the unit, the power input terminal at the rear panel of Main Rack (Control Unit) has a AC 220V only fuse so it must be replaced with the appropriate fuse when you apply AC 110V power.



< Main Rack (Control Unit) >

< RF Rack (Band Unit) >

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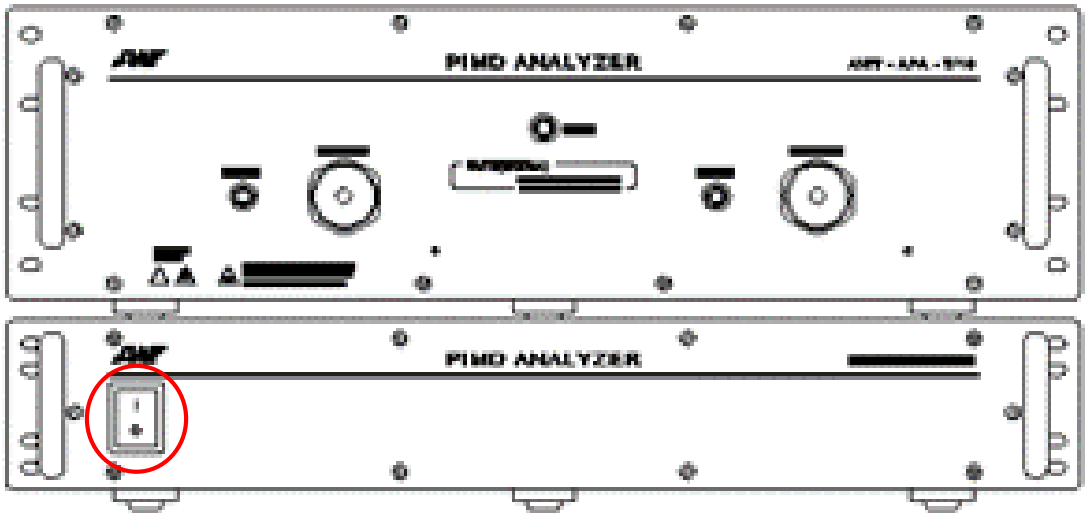
5. Installation of PIMD Analyzer

❖ Procedures after installation



- Turn the switch at the front panel of Main Rack (Control Unit) on.
  (Check LED inside of main switch is illuminated.)

- When the user changes the band, it needs a moment to upload the data for the appropriate band from the signal processing part and turn the unit off to initialize after the completion of upload and turn it on again.

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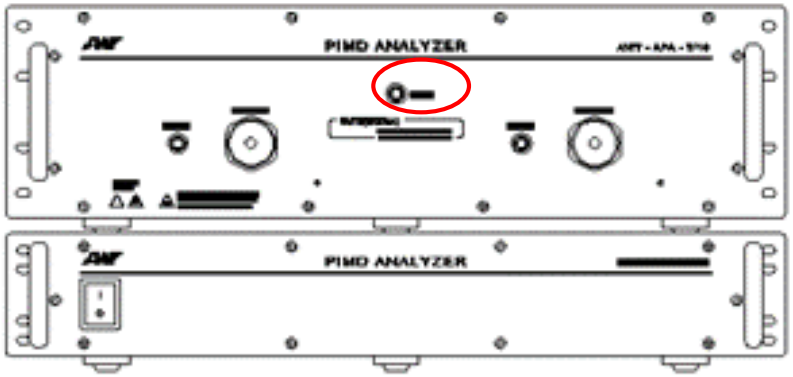
5. Installation of PIMD Analyzer

❖ Procedures after installation



- Run the operating application from the computer and set the band to select.
- Check that READY LED in RF Rack (Band Unit) for band which was set is illuminated and the internal fan works normally.
- Select other band in the application using the same way with above 4) and check that READY LED in RF Rack (Band Unit) for band which was set is illuminated and the internal fan works normally.

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