MODIFICATION RECOMMENDED –
CORRECTS MANUFACTURING OR DESIGN DEFECTS

8156A-02

S E R V I C E N O T E

Supersedes:
NONE

8156A Optical Attenuator

Serial Numbers: [0000A00000 / 9999Z99999]

8156A Firmware Update to fix optical output power overshoot when switching from Enable to Disable

To Be Performed By: Customer or Agilent-Qualified Personnel

Parts Required:

P/N	Description	Qty.

IC Memory 512kB SRAM (PCMCIA), battery-buffered, with 8156A firmware image "Rev 1.03 10/14/03"

The SRAM cards will be distributed by OCMD Customer Support.

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION: **MODIFICATION RECOMMENDED**			
ACTION CATEGORY:	[[]] IMMEDIATELY [[]] ON SPECIFIED FAILURE x AGREEABLE TIME	STANDARDS: LABOR: 0.1 Hours	
LOCATION CATEGORY:	x CUSTOMER INSTALLABLE x ON-SITE x SERVICE CENTER	SERVICE INVENTORY: [[]] RETURN [[]] SCRAP [[]] SEE TEXT	USED PARTS: [[]] RETURN [[]] SCRAP [[]] SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	AGILENT RESPONSIBLE UNTIL: December 2004	
AUTHOR: VE	PRODUCT LINE: 3E		
ADDITIONAL INFORMATION:			

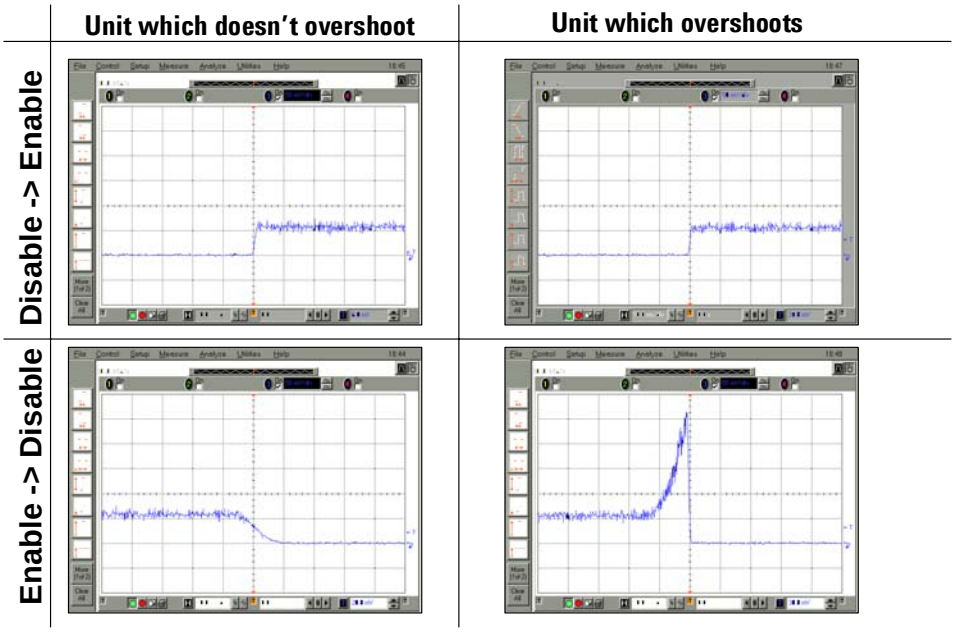
Agilent Technologies

November 24, 2003

Situation:

There is a potential risk of increased light power passing the optical attenuator's output for a few milliseconds when switching from the Enable to the Disable mode. In the worst case, 100% of the incoming light will be emitted. The inconsistency is present in roughly 50% of the 8156A optical attenuators. Whether a particular unit is affected cannot be identified externally.

When 8156A gets Disabled from the Enable state, light might overshoot and the 8156A might output higher optical power level than given by the set attenuation value. (See the Figure below)



Detailed information is available on:
ftp://bidrv227.germany.agilent.com/Attenuator_and_Switches/8156A/56A_Known_Problems/56A_Overshoot/

Solution/Action:

Note: This action is NOT applicable to 8156A having firmware <rev 1.02 installed.
Please, contact PMD, Customer Support, if you have such a product.

Solution is provided by firmware update which fixes the inconsistency.
When booting, the 8156A will show the firmware installed:

New firmware installed:	Rev 1.03 10/14/03	no action required
Old firmware installed:	Rev 1.02 10/07/93	needs to be updated to Rev 1.03

The firmware update SRAM cards are distributed to Agilent service centers or directly sent to customers to allow them doing the update by their own for a larger installed base.

The update shall be performed:

1. By the customer. This is the 1st choice implementation for larger installed base. It allows most flexibility to the customers' production flow and can be done at any time. Least time consuming as the update process does not take more than 2 minutes per instrument. Customer will receive the required SRAM card together with a detailed description of how to do the firmware update and how to duplicate SRAM cards. SRAM cards with the firmware image "Rev 1.03 10/14/03" will be distributed to customers in Jan04.
2. By Agilent Technologies during onsite calibration
3. By Agilent Technologies during RTA repair or calibration

Agilent service centers shall install firmware 1.03 on all 8156A during onsite calibration or RTA repair/calibration.

- after a repair was performed
- before the final calibration

Detailed information is available from the URL above.

Side aspects:
With the firmware update,

- User settings are not touched.
  e.g. GPIB address, attenuation, user calibration, attenuator type (8156SCPI or 8157SIM), etc. remain unchanged.
- All DSP settings will be automatically reset to factory initials.
  This is to ensure proper functionality of the EN/DIS function and performance in case DPS settings were altered, unexpectedly.

Update procedure:

- Switch off the 8156A
- Insert the SRAM card with the firmware rev 1.03, 10/14/03 loaded on it into the PCMCIA slot on the rear panel. Orientation: the Manufacturers label side facing downwards
- Press and hold the <Store> key (next to the power switch) and switch on the 8156A
- The display on the 8156A will should "FIRMWARE DOWNLOAD".
  You may now release the <Store> key
- The display shows the current status without a progress bar, steps may take up to 30 seconds without change on the display. The update process will take approximately 1 minute to complete. Don't interrupt process during this time.
- When the display shows "<<Pull card>>", switch off the instrument, then pull off the SRAM card
- Recycle power on the 8156A
- While rebooting the 8156A should display "Rev 1.03 10/14/03"
- The selftest is performed and ends when successfully displayed "SELFTEST PASSED"
- The user interface is displayed. The firmware is successfully loaded

Duplication of the firmware on more SRAM cards:

- New firmware update SRAM cards can be generated by an 8156A with the new firmware revision (Rev 1.03 10/14/03) already installed.
- Insert a blank 512kB SRAM card (PCMCIA/JEIDA Standard)* into the 8156A's PCMCIA slot at the rear panel
- Connect the 8156A via GPIB to a PC
- Send command ***makecard*** via GPIB to the 8156A
  The firmware will be load to the card and verified
- Test the card by performing the update procedure on another 8156A

* e.g. Panasonic BN-512HSR (requires CR2025 type battery)