

MODIFICATION RECOMMENDED –
CORRECTS MANUFACTURING OR DESIGN DEFECTS

86130A-06A

S E R V I C E N O T E

Supersedes:
86130A-05, 86130A-06

86130A BitAlyzer Error Performance Analyzer

Serial Numbers: US41450819 and earlier.
Exception: US41450824

Intermittent PG Data and PG Clock output amplifier shutdown.

To Be Performed By: Agilent-Qualified Personnel

Parts Required:

P/N	Description	Qty.
86130-80041	PLD Code – U8	1
Release 08/16/02, Checksum 00195DD5		

Note: SW updates only using Altera SW and programming cable.

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
MODIFICATION RECOMMENDED			
ACTION CATEGORY:	<input type="checkbox"/> IMMEDIATELY <input type="checkbox"/> ON SPECIFIED FAILURE <input checked="" type="checkbox"/> AGREEABLE TIME	STANDARDS: LABOR: 1.0 Hours	
LOCATION CATEGORY:	<input type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE <input checked="" type="checkbox"/> SERVICE CENTER	SERVICE <input type="checkbox"/> RETURN INVENTORY: <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT	USED <input type="checkbox"/> RETURN PARTS: <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE		
AGILENT RESPONSIBLE UNTIL: EOS.			
AUTHOR: RBS		PRODUCT LINE: 8F	
ADDITIONAL INFORMATION: Factory Reference SoCo ECR0000630, SoCo ATM 3Gig_Caliber.82. Re-issued this SN to clarify the upgrade procedure that had been documented in 86130A-05 and 86130A-06.			

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Situation:

In order to protect the output amplifiers from damage due to incorrect biasing, the 86130A was designed to shutdown the pattern generator (PG) output amplifiers if it detected an ac transient or an ac power failure. However, the power fail warning (PFW) output on some 86130A power supplies may cause a false trigger and shutdown the amplifiers due to excessive noise on the PFW signal line.

If this happens, the instrument GUI will indicate that the amplifiers are enabled when in fact all four output amps (Data, DataBar, Clock and ClockBar) are turned OFF - there are no voltage transitions from any of the outputs during this time, but the GUI remains operational. On SW Versions A.02.01 or later, a Windows NT dialog box will appear telling the user that a transient has been detected and the amps have been disabled. A Category '200' event will also be written to the NT Event Viewer System log (accessible from the Utility pulldown menu). SW Versions A.02.00 and earlier do not provide any message to users and do not record the event in a log.

The amplifiers can be re-enabled by rebooting the instrument (sometimes the ac line cord needs to be physically removed from the instrument) and there is no detrimental effect to the instrument.

The PLD on the PG Digital Board was modified by programmatically adding a flip-flop on the Power fail warning input. This prevents short repetitive transients from causing the PFW to alarm. The PLD modification requires that line AC be absent for more than ~2ms before shutting the amps down. The noise transients out of the power supply PFW line are effectively filtered since they are $\ll 2\text{ms}$. The circuit will continue to protect the amplifiers by disabling them (turning them off) in a controlled manner if AC dropouts longer than 2ms occur.

Solution/Action:

1. Reprogram PLD-U8 on the A2A2 PG Digital Board with 86130-80041 or later. Refer to the PLD Upgrading section of the 86130A Service Guide for the procedure. As outlined in the procedure, Altera programming SW and a ByteBlasterMV programming cable are required – 86130A capable service centers are equipped to provide this service.

86130A PLD SW is available for download from the following internal Agilent URL:

http://lwd.marketing.agilent.com/Service_Support/Product_Support/86130a/PLD%20Code%20-%20Current/PLD_Code_Current.htm

NOTE: Figure 2-3 and Figure 2-4 in the 86130A Service Guide Nov2001 release (86130-90003) incorrectly labeled U7 and U8 PLD – they are reversed. Refer to the board silkscreen or the Installation Note “86130A U8 PLD Upgrade” (3rd Edition, Oct 2002) for proper PLD location, or contact the Support Engineer for more info.

2. After reprogramming, perform a Confidence Check as outlined in the 86130A Service Guide. This PLD upgrade does not affect Calibration of the instrument so a re-CAL is not necessary.

3. Affix Service Note label 86130-06A to the rear of the instrument near the serial# tag. **Instruments upgraded by the factory have label SN86130A-08A or later affixed to the rear.**