



Alliance Support Partners, Inc.
5036 Commercial Cir, Unit C
Concord, CA 94520

ASP-SBM-00

Signal Buffer Module User Manual

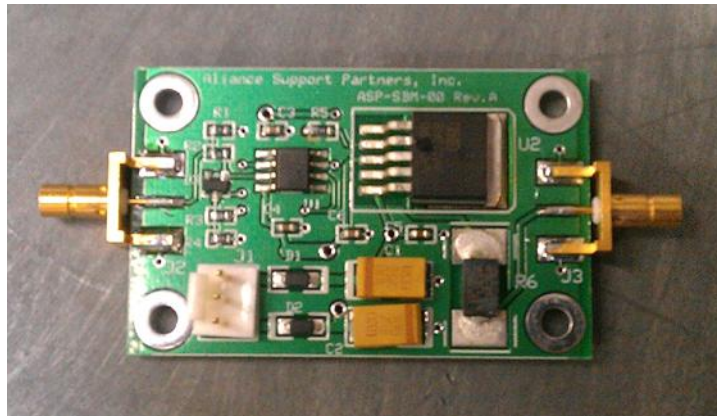
Revision: 1.0, February 13, 012, Alliance Support Partners, Inc.

Product Overview

Signal quality problems caused by mismatched impedance can result in intermittent measurements and faulty diagnostics. This is most often observed when transporting a test program from one system to another, such as re-hosting it from an older generation system to a new one. The primary root cause of the impedance mismatch is the signal path from the UUT to the measurement instrument. The switching system technology often is responsible for much of the distortion.

The Signal Buffer Module (SBM) is designed to receive a signal from the UUT with high impedance output and accurately reproduced it at the output for delivery to the measurement instrument. The SBM output matches the 50 ohm input impedance of most measurement instruments and result in significantly reduced signal distortion.

The SBM is a single PCB module and can easily be mounted into an ICT fixtures or a functional fixture/ITA. Multiple SBMs can be used as required. Each SMB is able to drive up to 100mA load. With a $\pm 15V$ power supply, it can easily handle signals from DC to 6VAC peak to peak with unity gain and with the bandwidth of 100 MHz in frequency.



Hardware Connections



J1	Power Supply	Pin 1 = +V, Pin 2 = GND and Pin 3 = -V
J2	Signal Input	SMB Jack
J3	Signal Output	SMB Jack

Specifications

Model part number: ASP-SBM-01 rev A

Bandwidth: DC to 100 MHz

Input impedance: 100 KOhm

Input Voltage: DC to 6V PK – PK AC (With $\pm 15V$ power supply)

Output Impedance: 50 Ohm

Output Voltage: DC to 6V PK – PK AC (With $\pm 15V$ power supply)

Power supply voltage: $\pm 5V$ to $\pm 15V$

Power supply quiescent current: ± 29 mA

Physical dimension: 1.98" x 1.25" (5.02 cm x 3.18 cm)

Example Waveforms

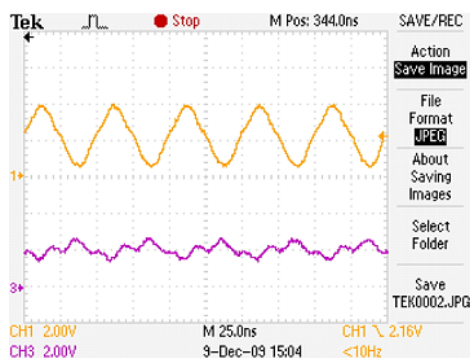


Fig 1. Channel 1 is a 20 MHz clock at the UUT. Channel 3 is the signal at the Counter Timer after it has passed through the Cross Point Matrix WITHOUT the SBM.

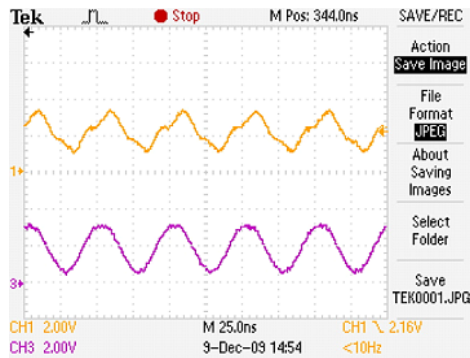


Fig 2. Channel 1 is a 20 MHz clock at the UUT. Channel 3 is the signal at the Counter Timer after it has passed through the SBM and the Cross Point Matrix.

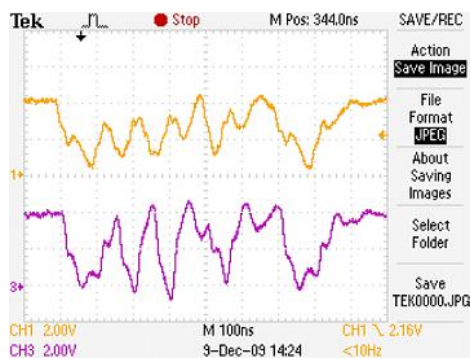


Fig 3. Channel 1 is the signal at the UUT. Channel 3 is the signal at the Counter Timer WITHOUT the SBM.

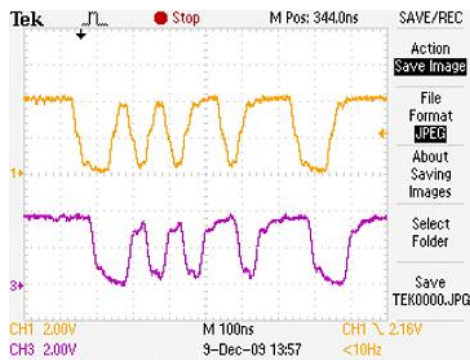


Fig 4. Channel 1 is the signal at the UUT. Channel 3 is the signal at the Counter Timer after it has passed through the SBM and the Cross Point Matrix.