

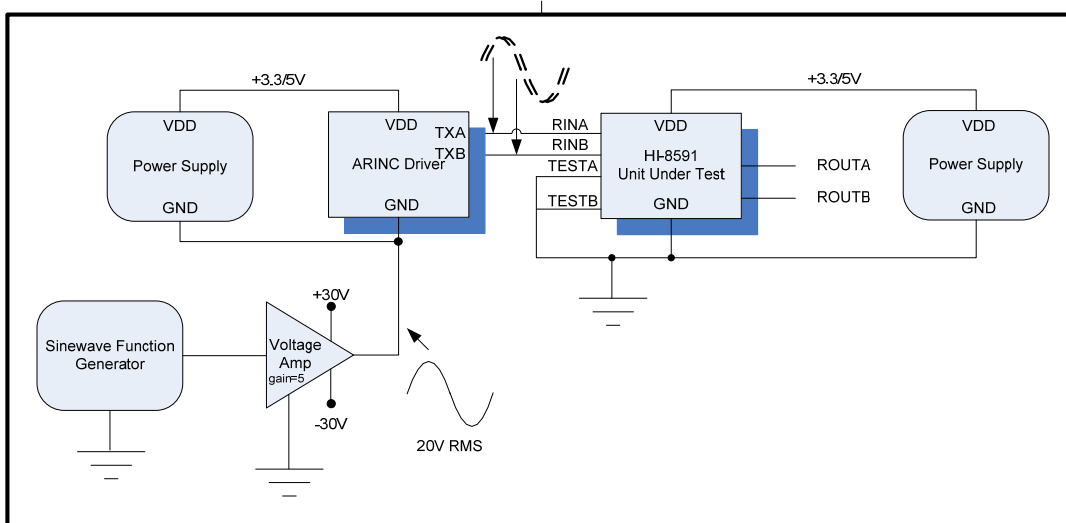
Introduction:

The ARINC 429 is a point- to- point differential bus used for serial data transmission applications. Any Common Mode signals riding on an ARINC bus are unwanted signals that inadvertently couple onto the bus from adjacent cabling or different ground potentials throughout a system.

The HI-8591 ARINC Receiver exhibits excellent common mode rejection with respect to ground. This application note shows how this measurement is performed. The example diagram below shows a bench set up for testing the HI-8591 ARINC Receiver for Common Mode Rejection.

The HI-8591 is immune to a wide range of input common mode signals riding on the RINA and RINB inputs:

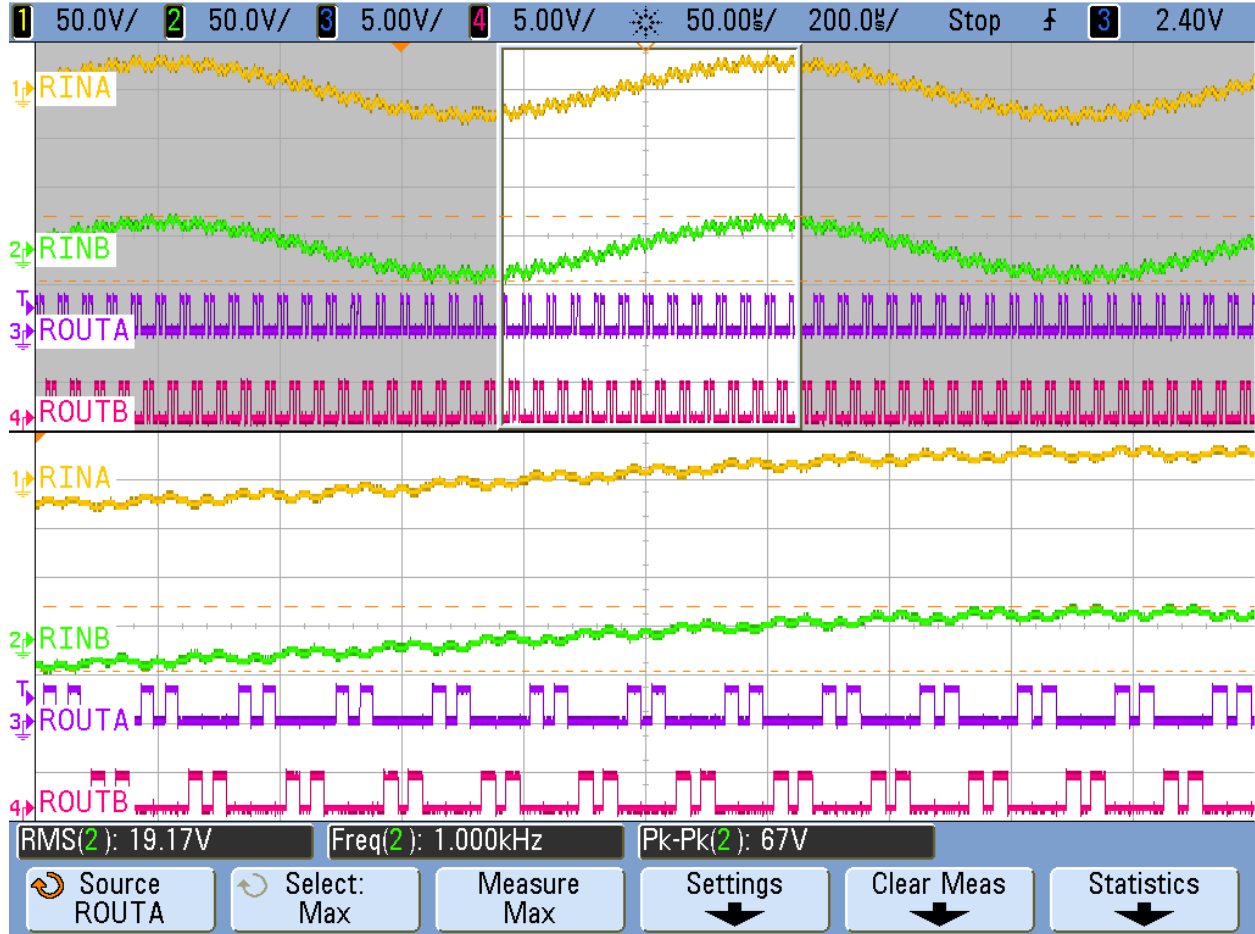
Injected Common Mode voltage: 0-54 Volt P-P sine wave
Frequency input range: 1Hz – 10KHz



The scope plot below shows a 19.55 Volt RMS 1KHz sine wave superimposed onto the ARINC inputs. The HI-8591 still produces good ARINC digital outputs ROUTA and ROUTB. The test data is alternating 1-1 then a 0-0 pattern.



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Conclusion:

The Holt HI-8591 demonstrates excellent Common Mode voltage rejection and is an excellent choice in environments where noise or differential grounds may be present.

REVISION HISTORY

P/N	Rev	Date	Description of Change
AN-155	NEW	07/19/11	Initial Release
