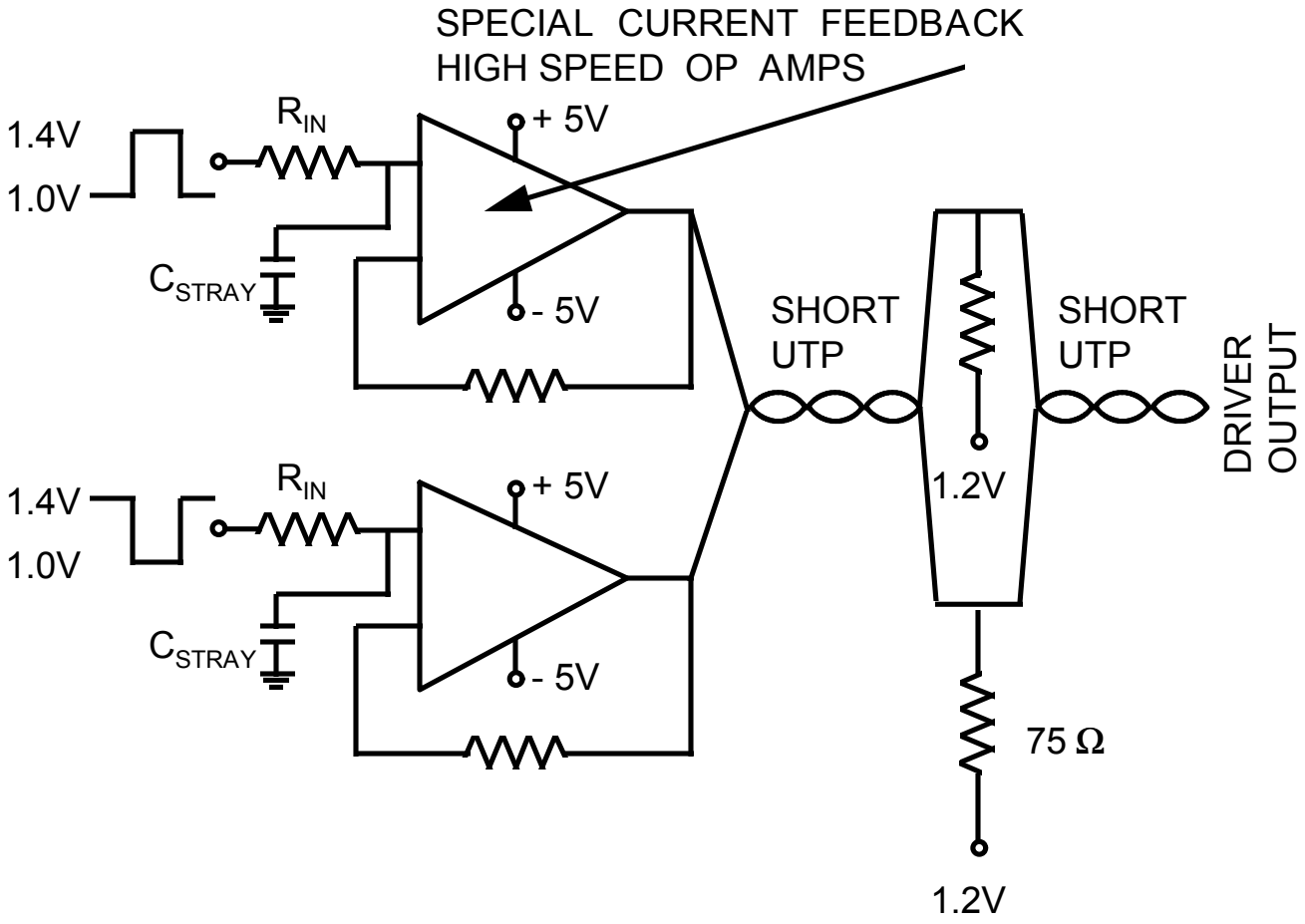
SYSTEM EFFECTS OF VOLTAGE MODE DRIVERS AND SLEW RATES FOR LVD SCSI

- A SYSTEM WAS IMPLEMENTED TO SIMULATE A CONTROLLABLE VOLTAGE MODE DRIVER
- THIS SYSTEM ALLOWS THE PRIMARY BUS EFFECTS OF VOLTAGE MODE DRIVERS AND SLEW RATES TO BE TESTED
- THIS DRIVER AND THE INITIAL RESULTS ARE SHOWN IN THE FOLLOWING SLIDES
- ONCE AGAIN WE USED SYMMETRICAL SIGNALS AND SYMMETRICAL TERMINATION FOR TESTING PURPOSES
- THE NEED FOR RELATIVELY PRECISE ASYMMETRICAL DRIVERS IS FURTHER SUPPORTED
- VOLTAGE MODE DRIVERS APPEAR CAPABLE OF EASILY MEETING THE LATEST CONFIGURATION RULES

X3T10/96-187r0

LVD SCSI VOLTAGE MODE DRIVER DATA

SINGLE SIGNAL VOLTAGE MODE DRIVER SIMULATION



OUTPUT EDGE SLEW RATE ADJUSTED BY CHANGING R_{IN}

47 Ω RISE TIME ~ 0.6 ns (NO CABLE ATTACHED)
402 Ω RISE TIME ~ 1.3 ns (NO CABLE ATTACHED)

OUTPUT VOLTAGE CAN BE DIRECTLY ADJUSTED
BY CHANGING THE INPUT SIGNALS

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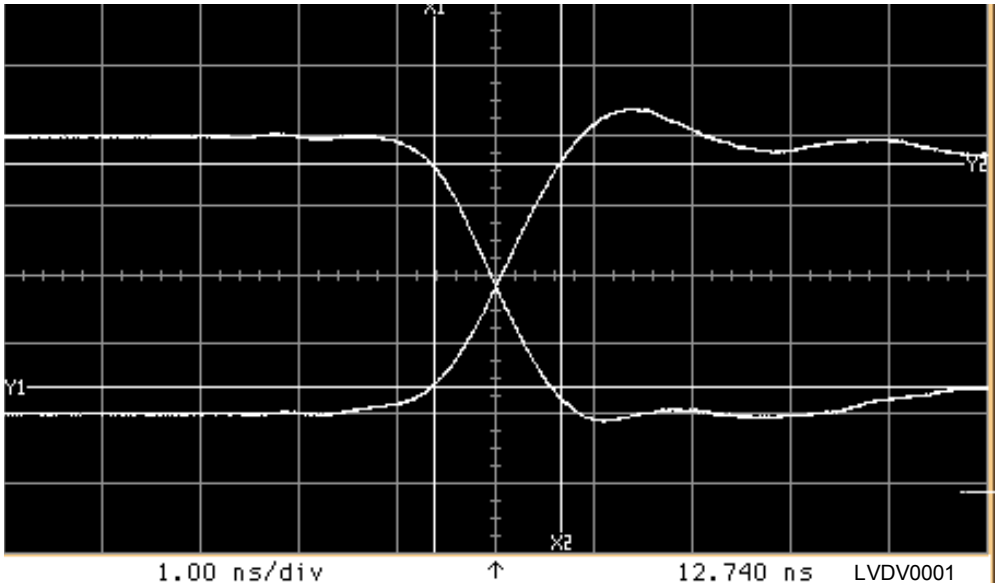
LVD SCSI VOLTAGE MODE DRIVER DATA

AT DRIVER NO CABLE ATTACHED -- ALL 1.0 ns / DIV

100 mV

0

- 100 mV

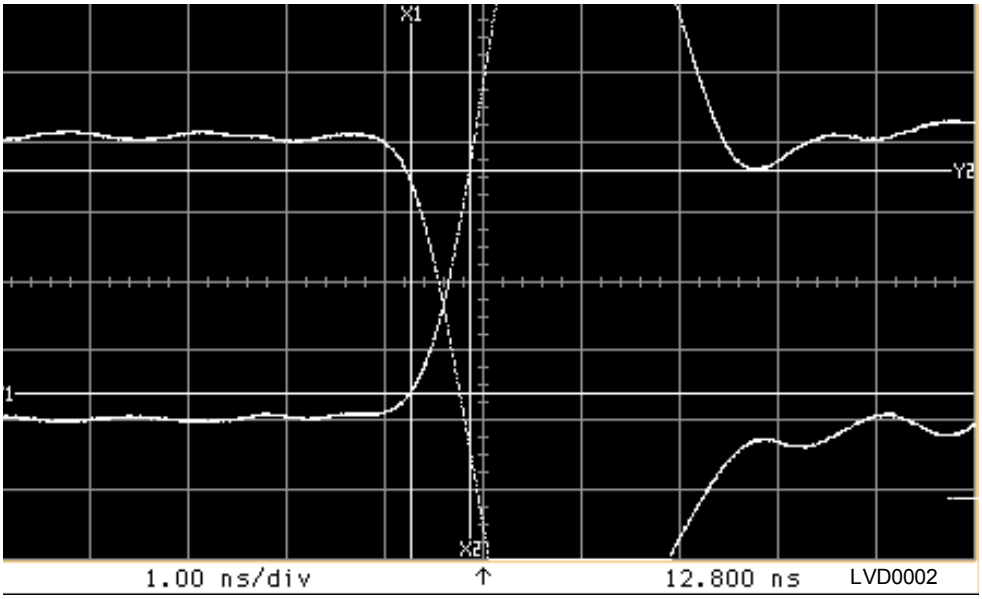


SLOW SLEW (~ 1.29 ns)

100 mV

0

- 100 mV



FAST SLEW (~ 0.6 ns) --
OVERSHOOT DUE TO OP AMP;
REMOVING SOURCE TERMINATORS
HAS VERY LITTLE EFFECT -- RECALL
CURRENT MODE HAD A 2X SIGNAL EFFECT

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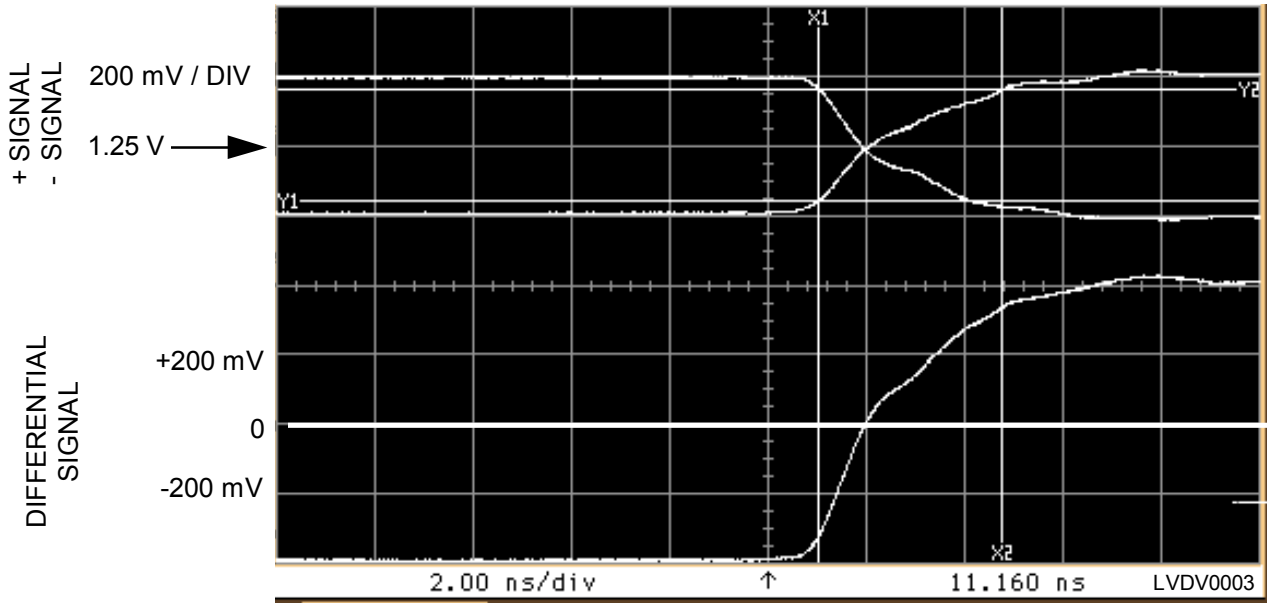
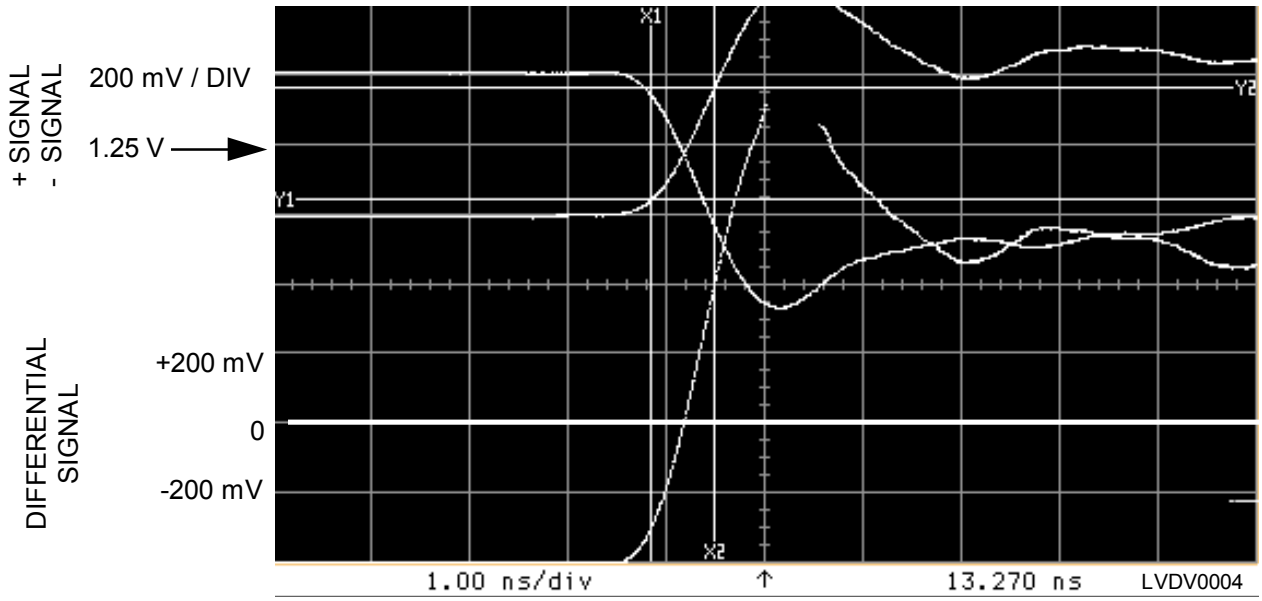
LVD SCSI VOLTAGE MODE DRIVER DATA

AT DRIVER WITH CABLE ATTACHED -- 6 M + 15 LOADS



SLOW SLEW (~ 3.7 ns) -- 2ns / DIV

AT DRIVER WITH CABLE ATTACHED -- 6 M + 15 LOADS



FAST SLEW (~ 0.637 ns) -- 1 ns /DIV

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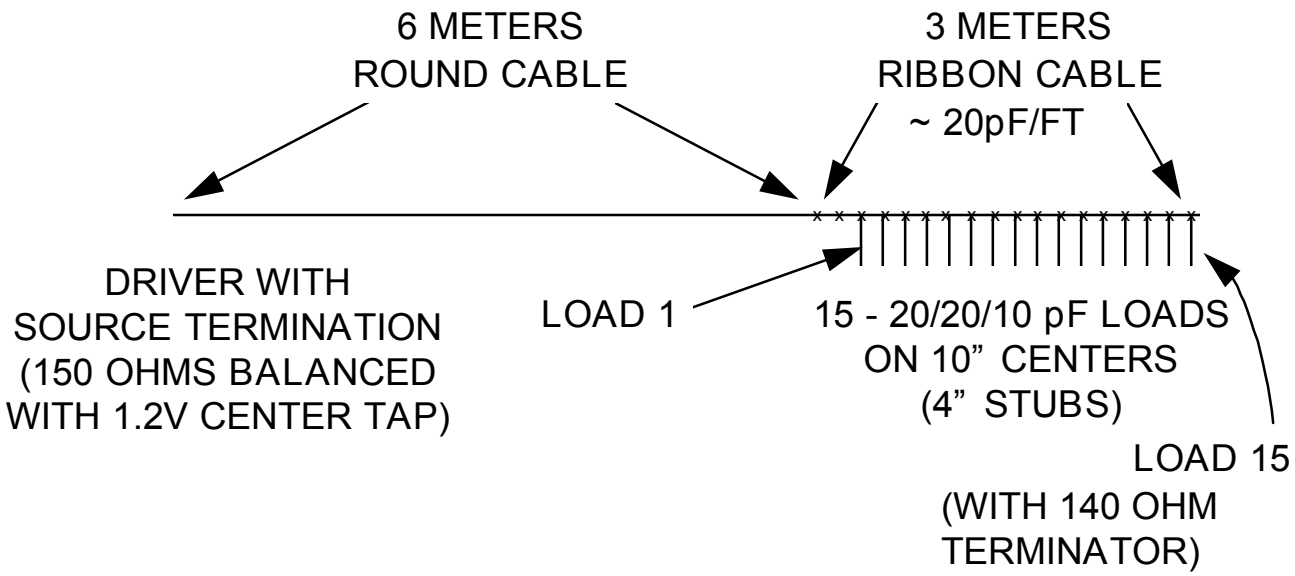
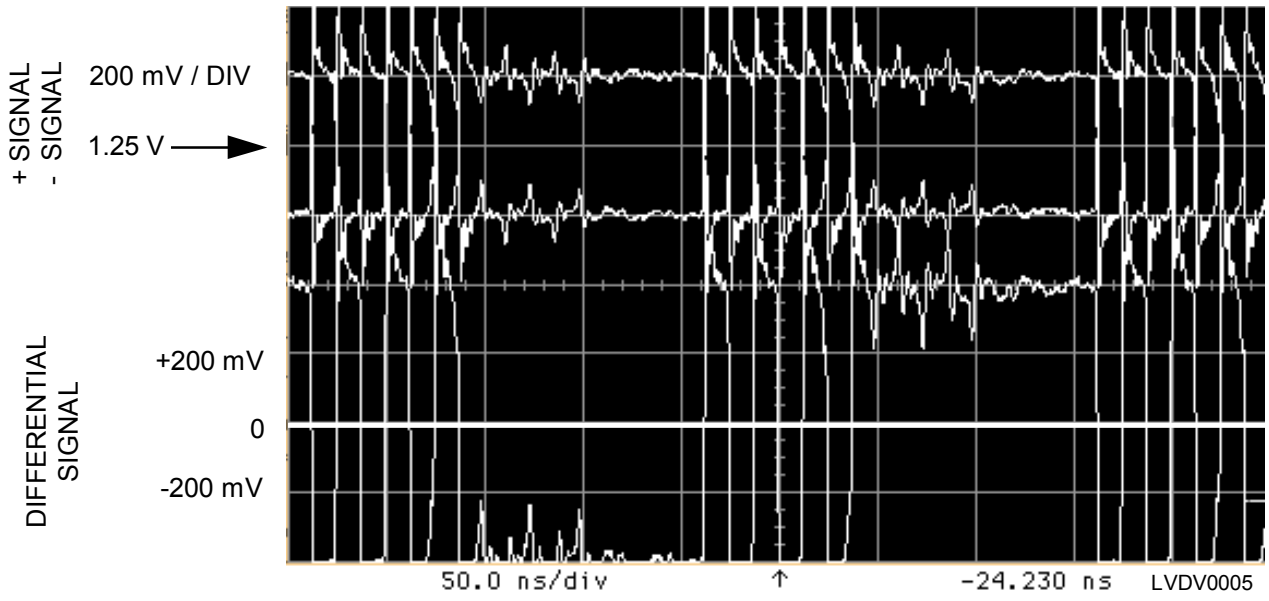
LVD SCSI VOLTAGE MODE DRIVER DATA



FAST SLEW RATE AT DRIVER



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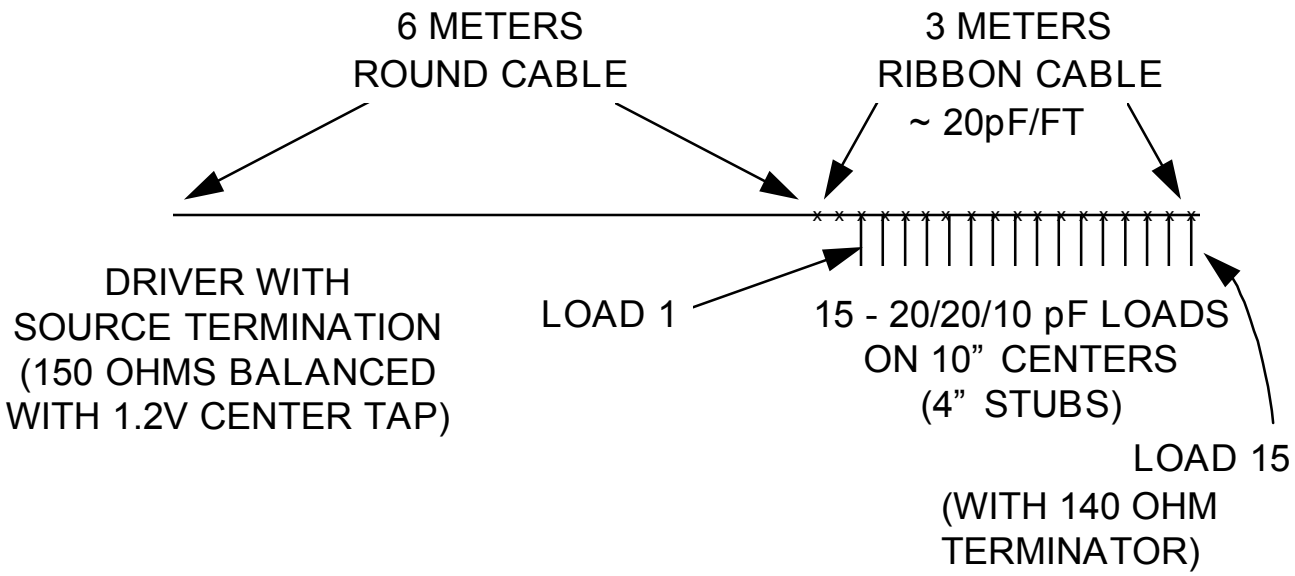
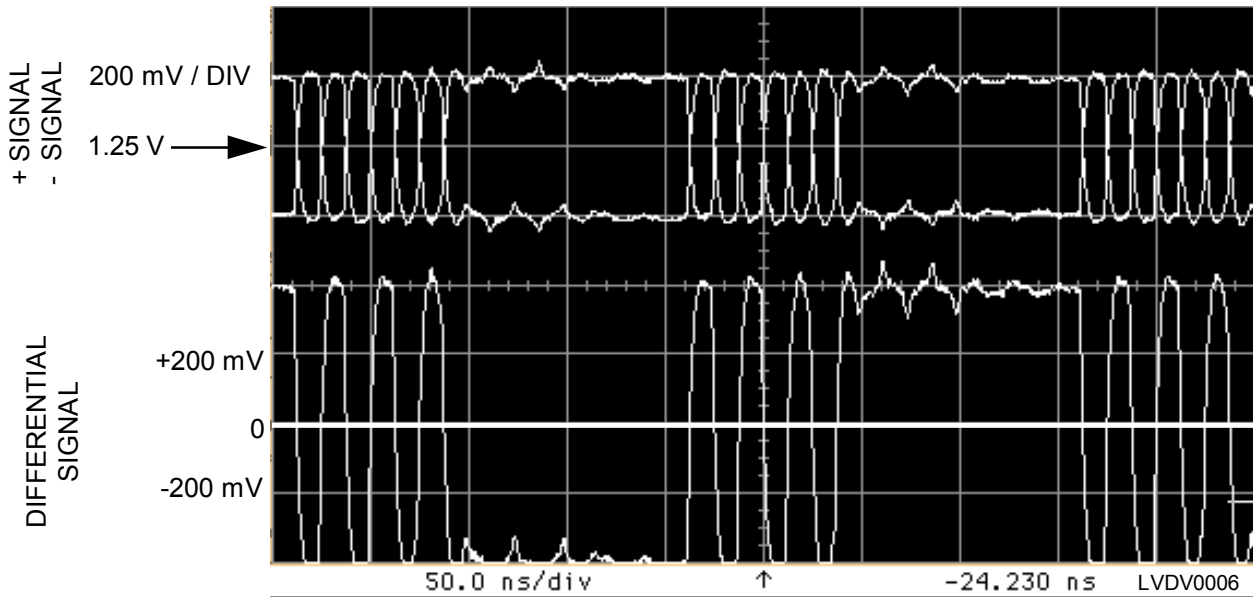


SLOW SLEW RATE AT DRIVER



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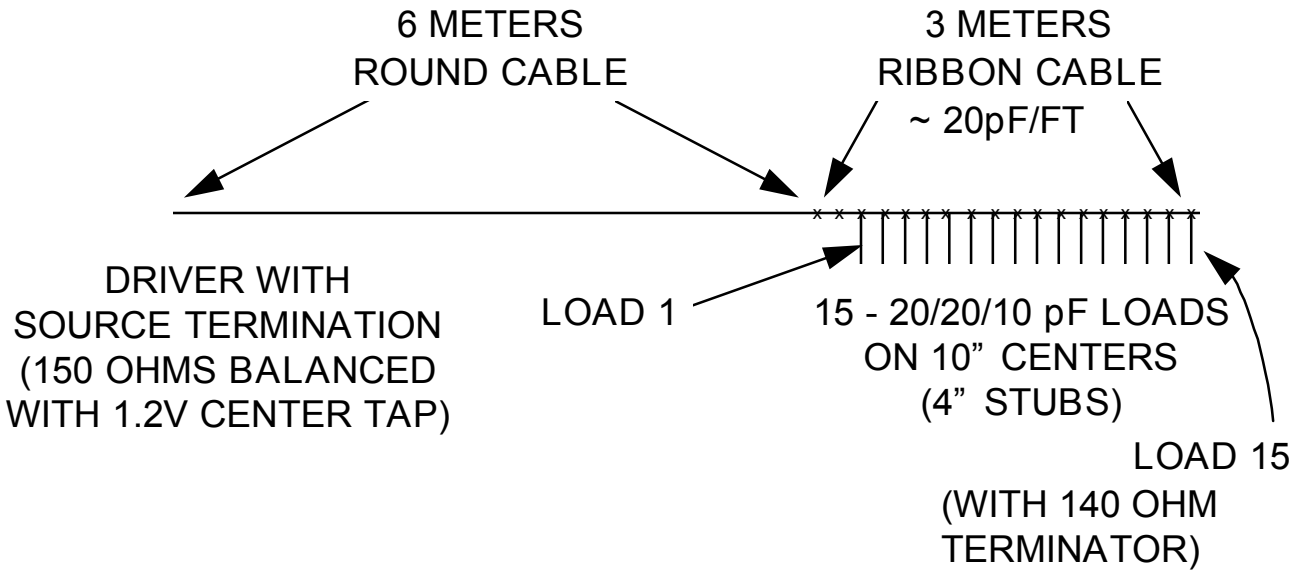
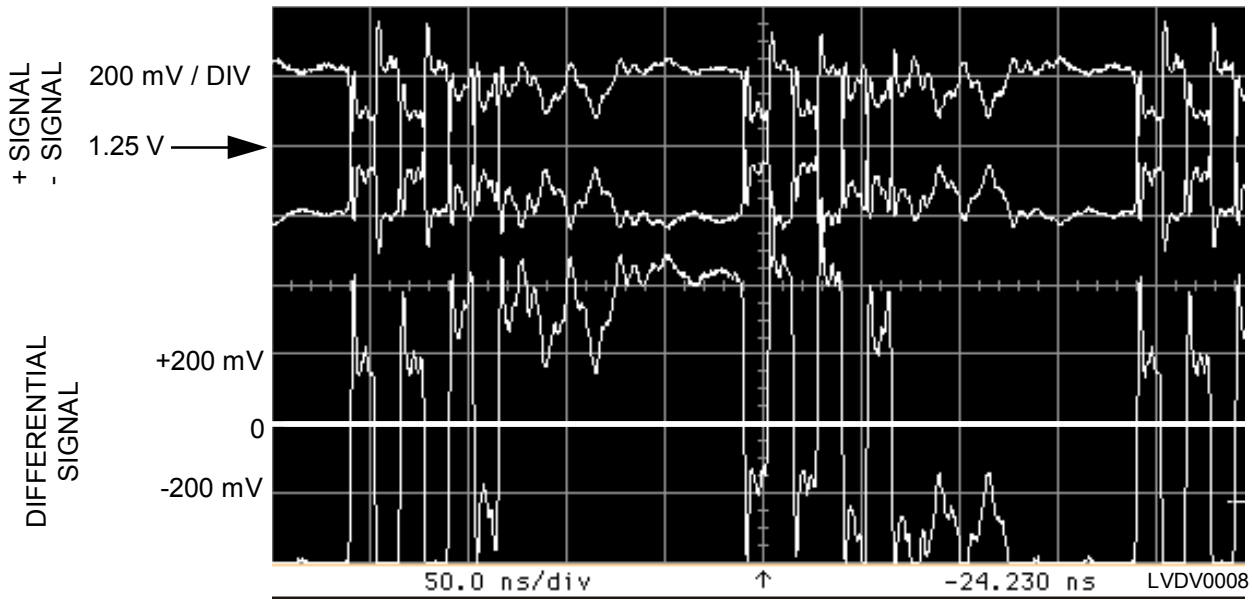


FAST SLEW RATE AT LOAD 1



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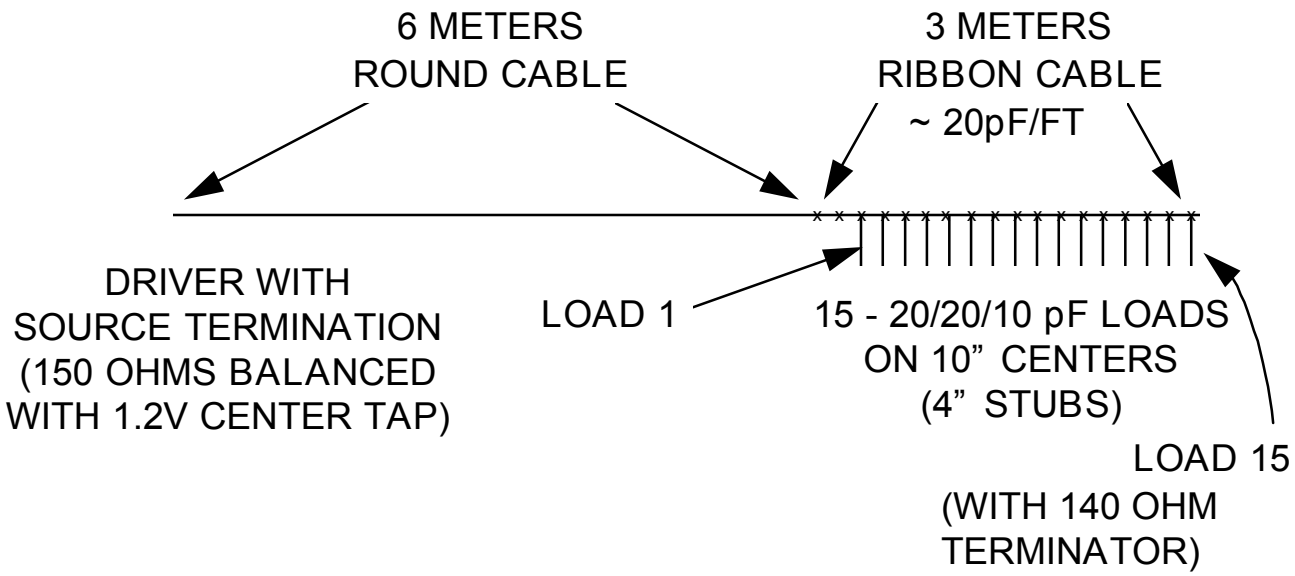

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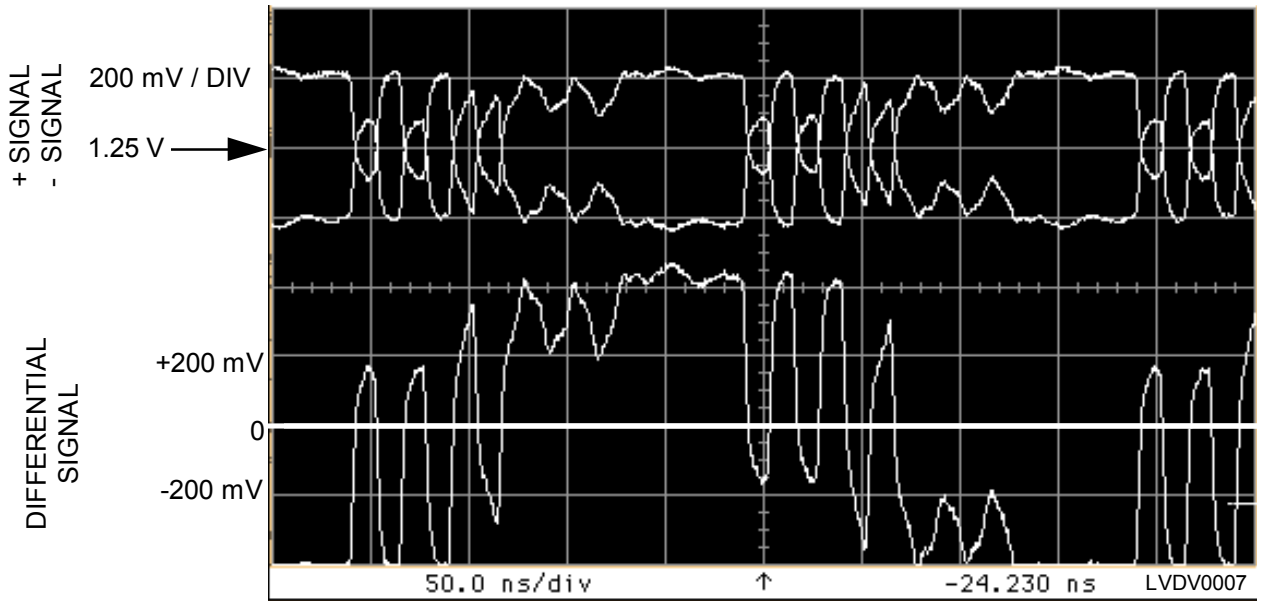

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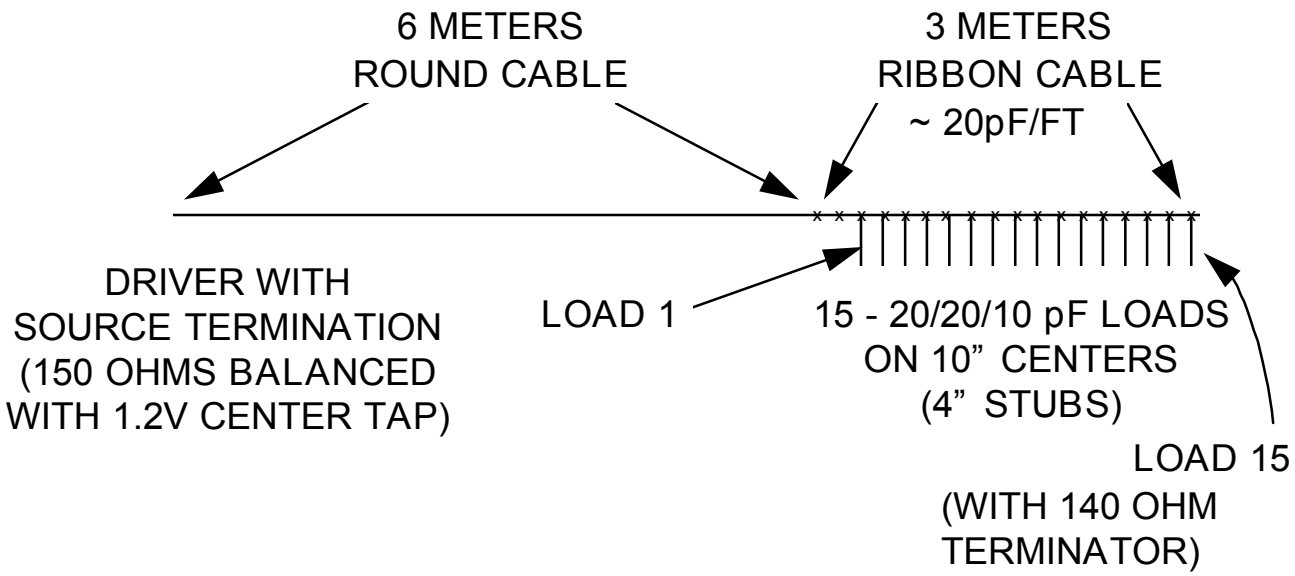
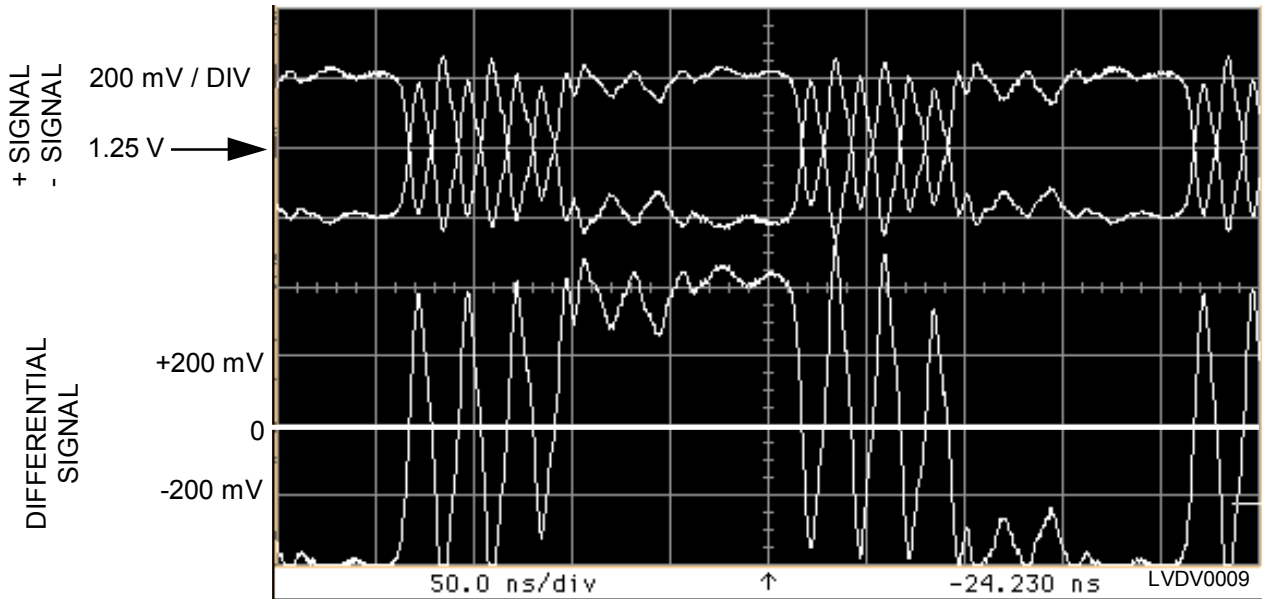


FAST SLEW RATE AT LOAD 15



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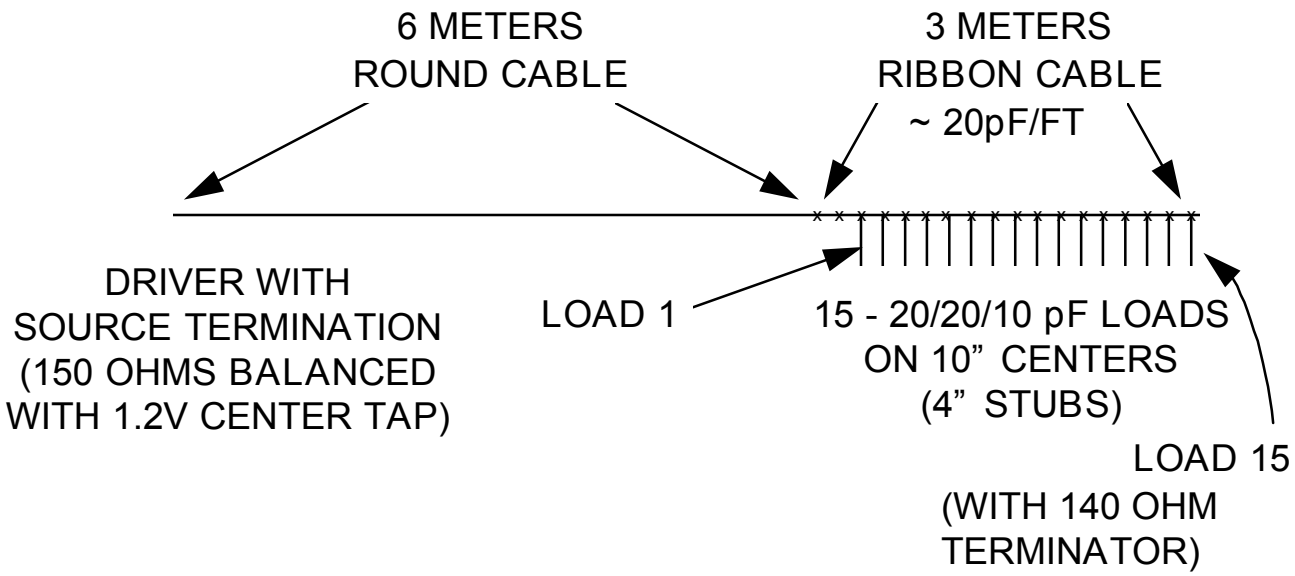
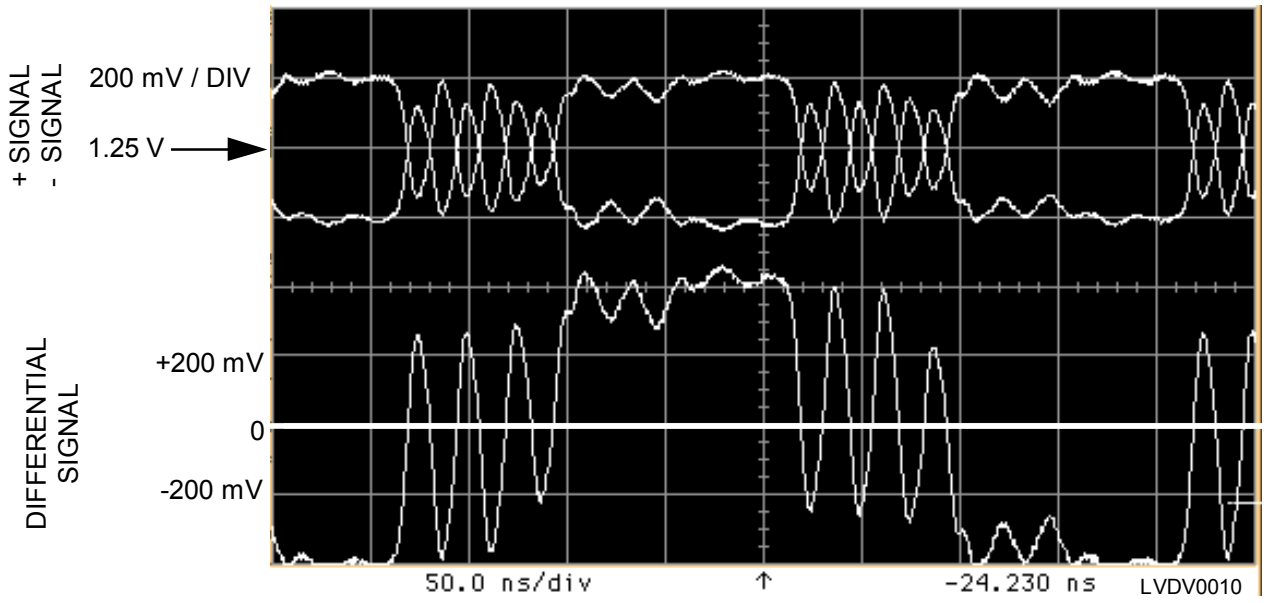
LVD SCSI VOLTAGE MODE DRIVER DATA



SLOW SLEW RATE AT LOAD 15



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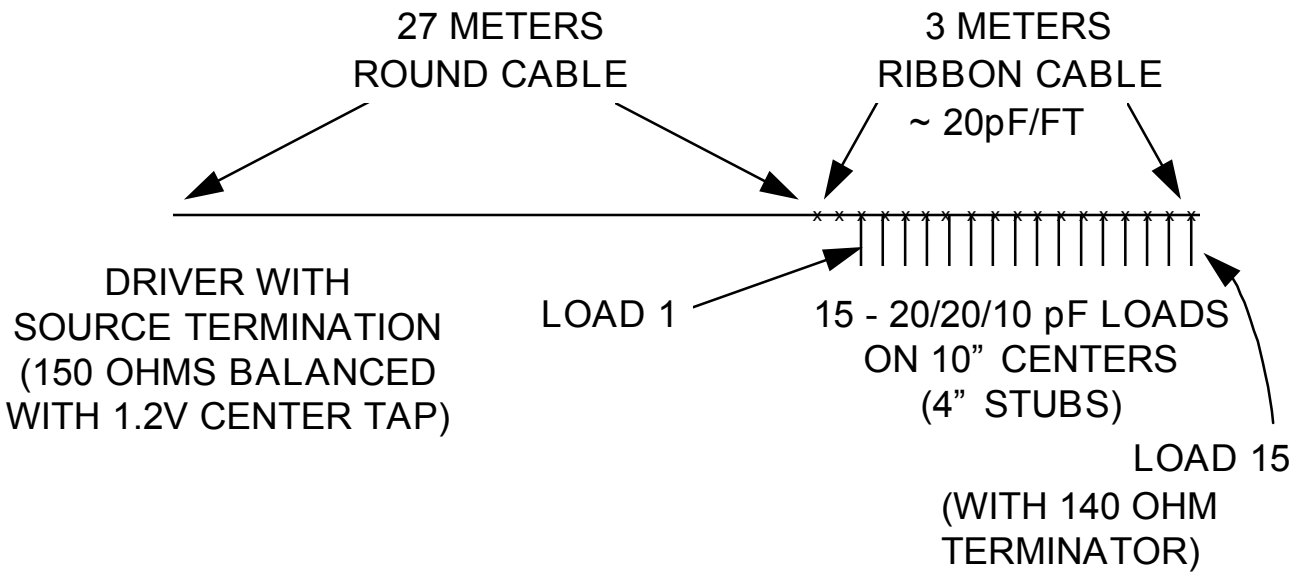
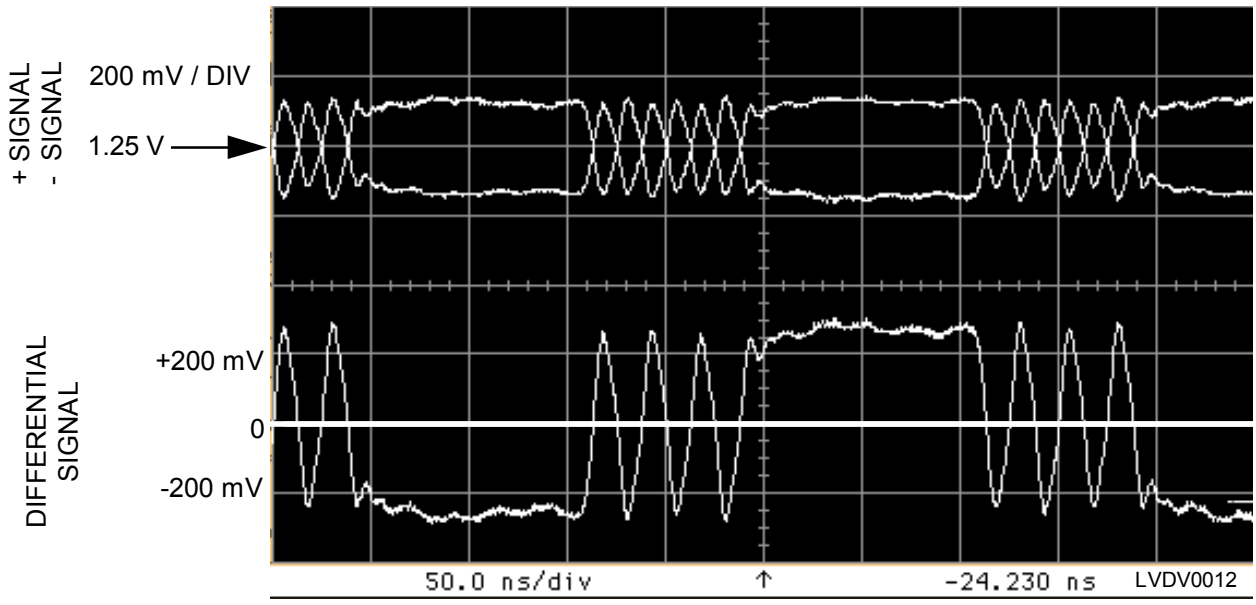


FAST SLEW RATE AT LOAD 15



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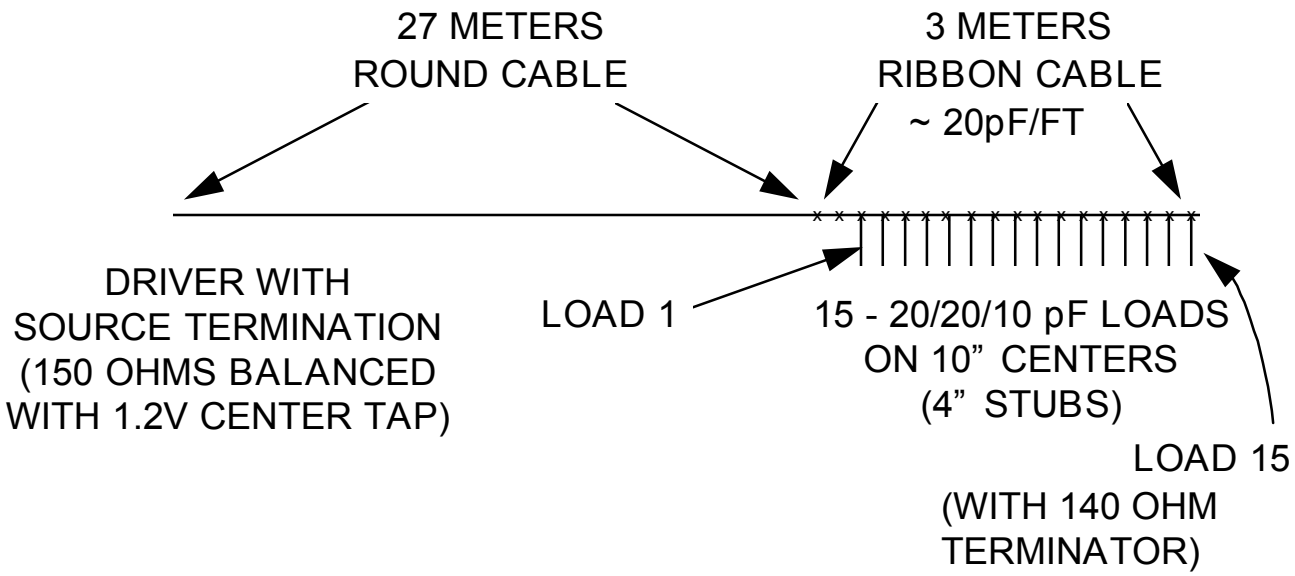

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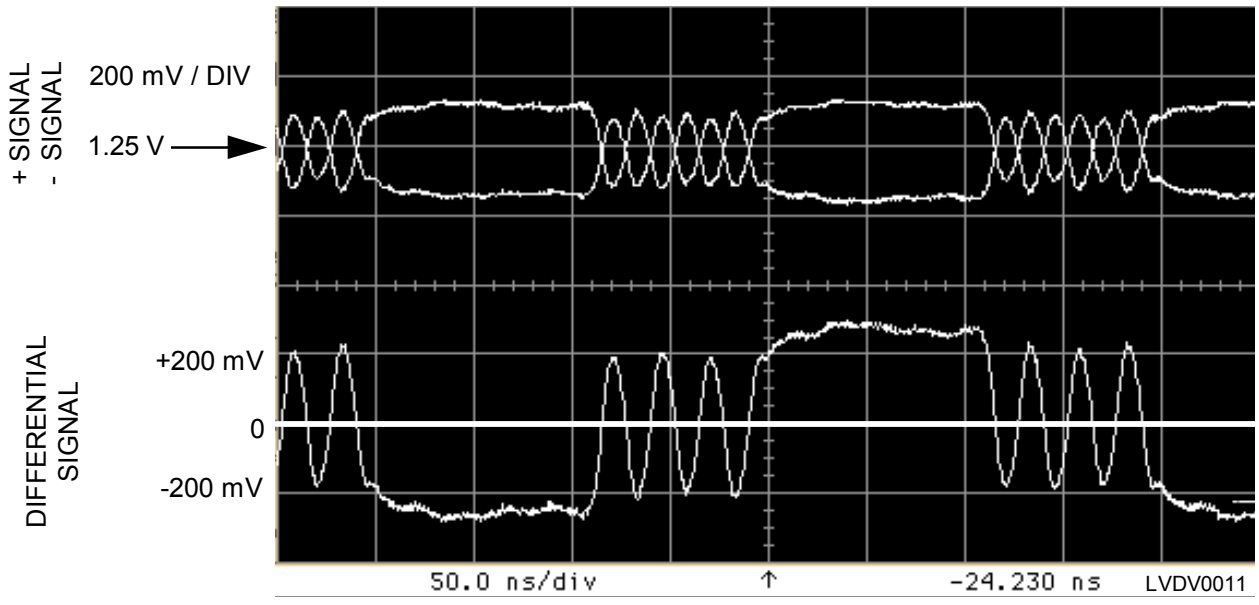

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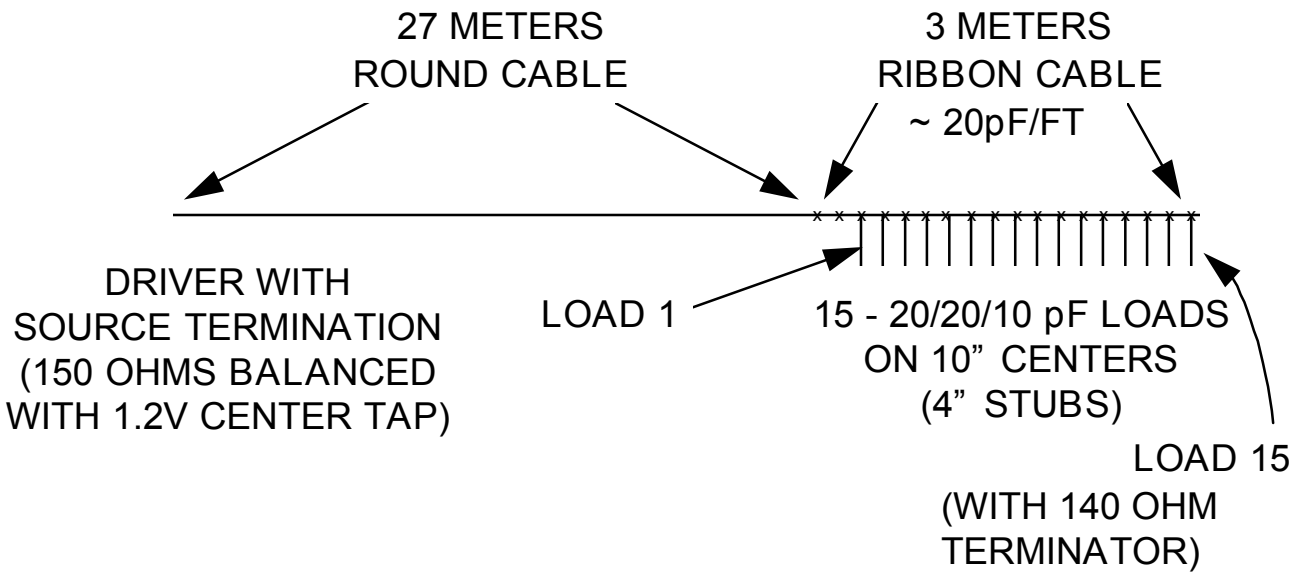
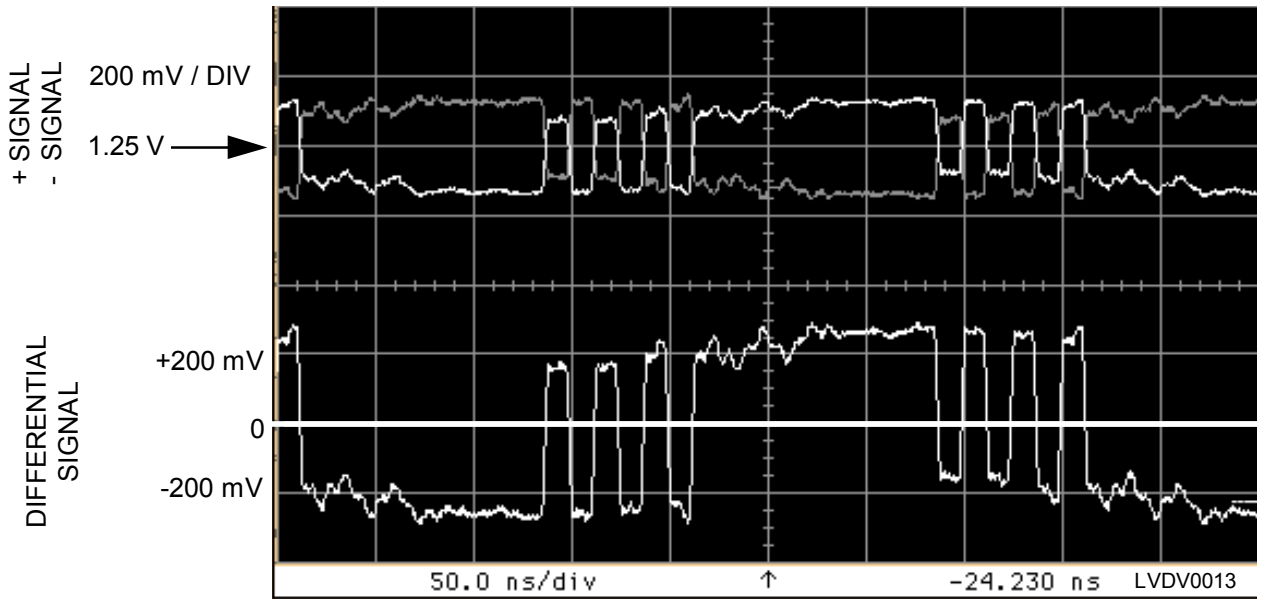


FAST SLEW RATE AT LOAD 1



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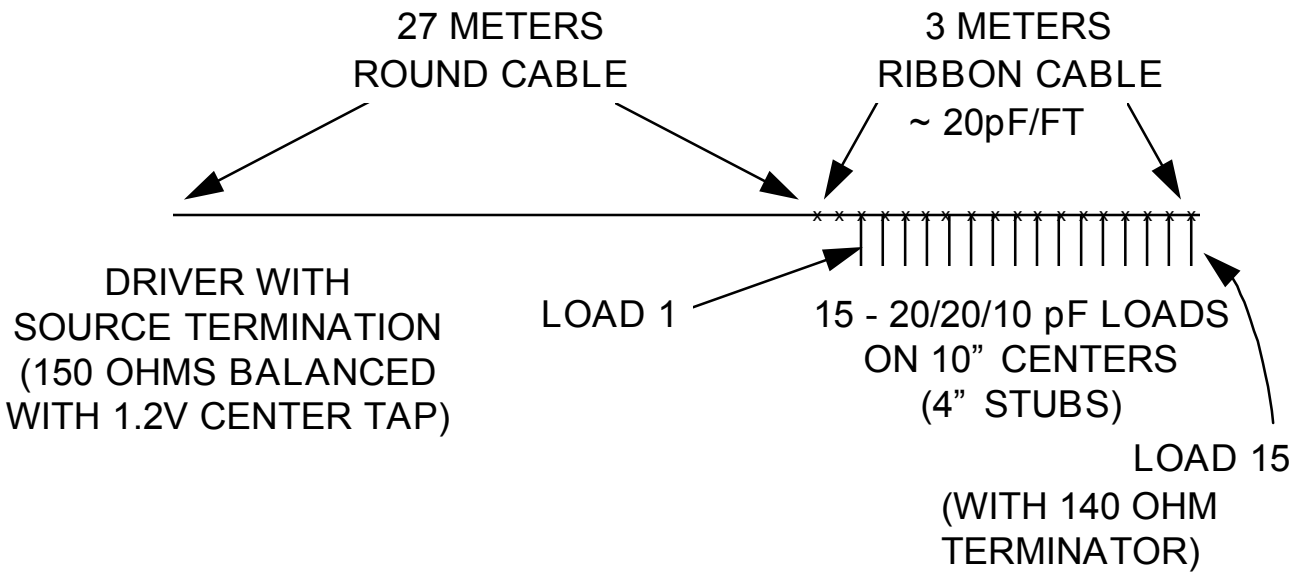
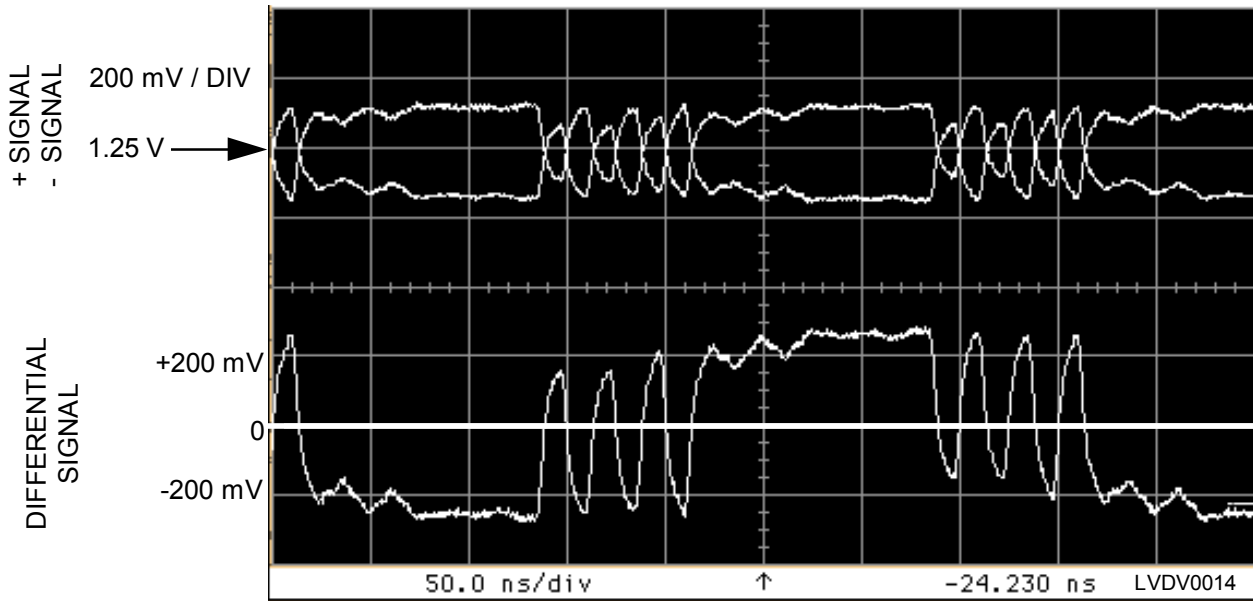


SLOW SLEW RATE AT LOAD 1



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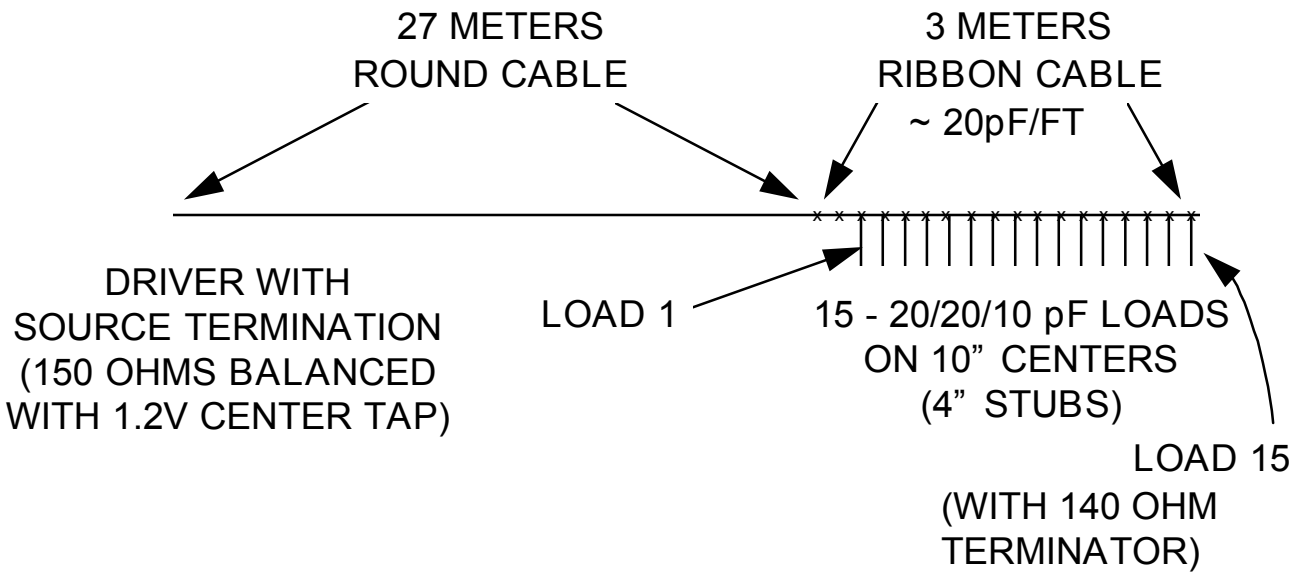

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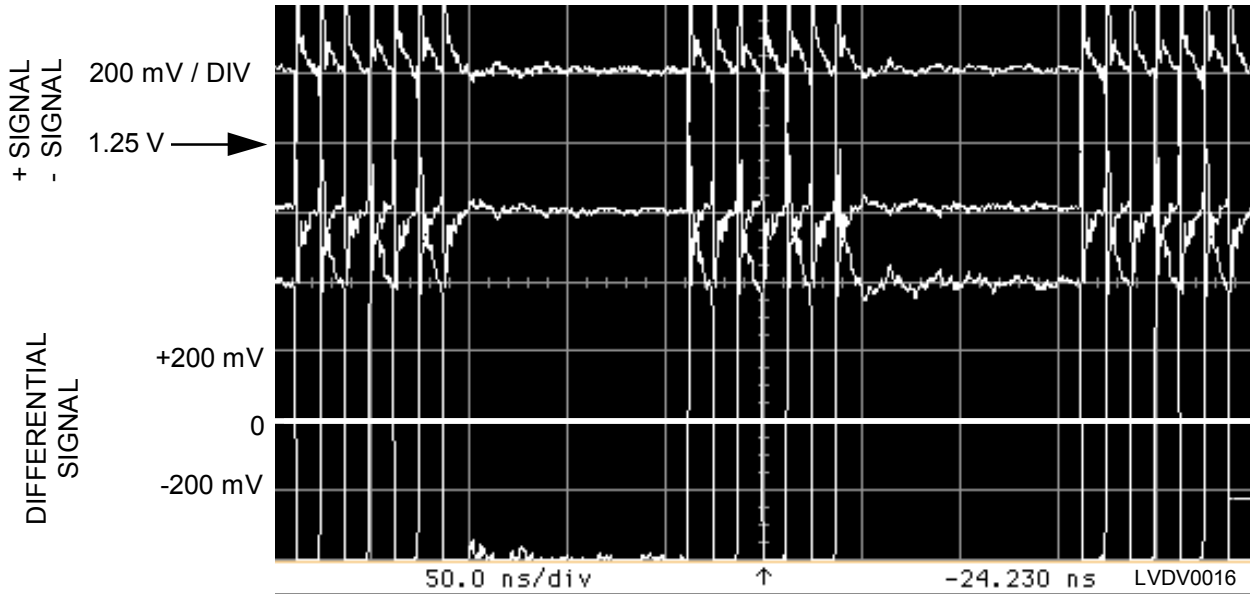

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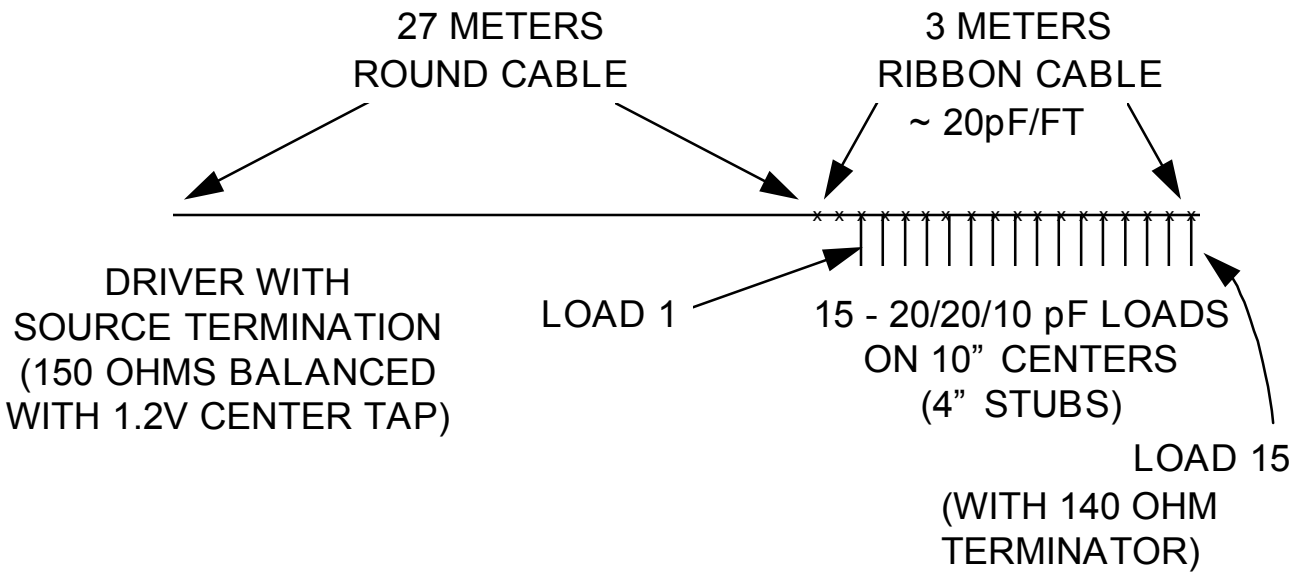

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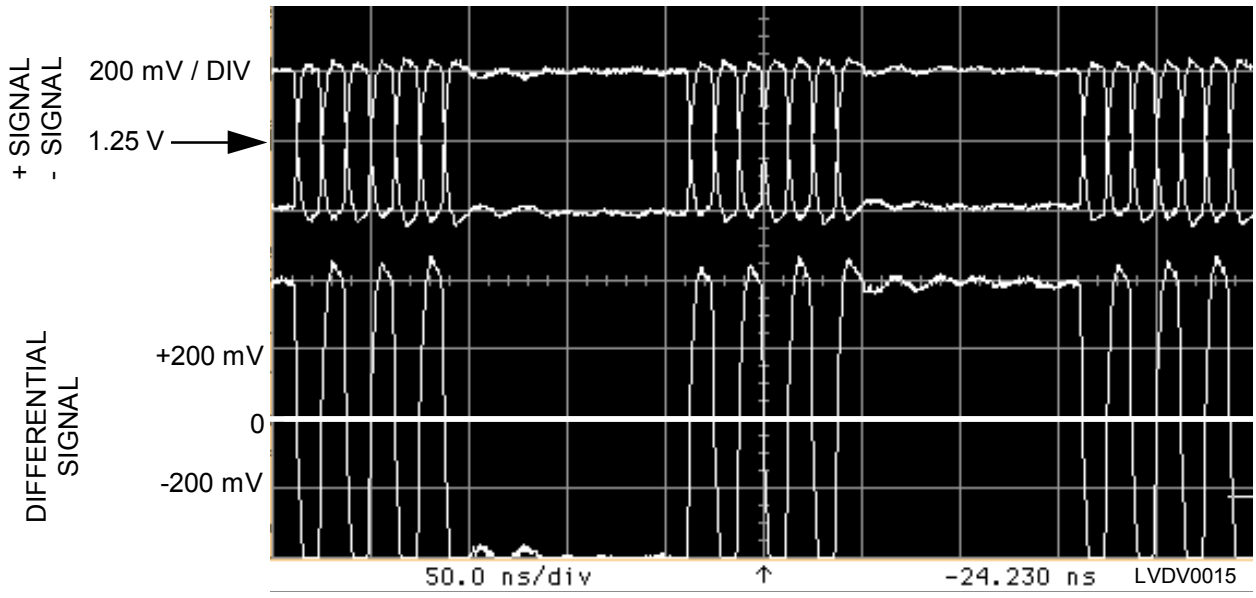

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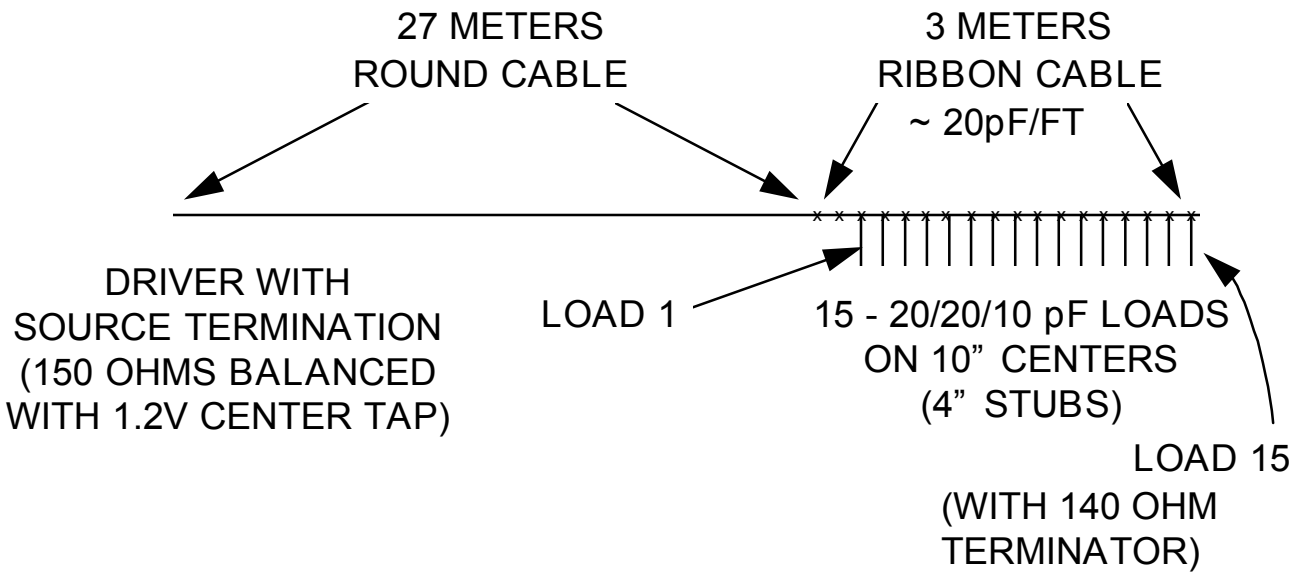
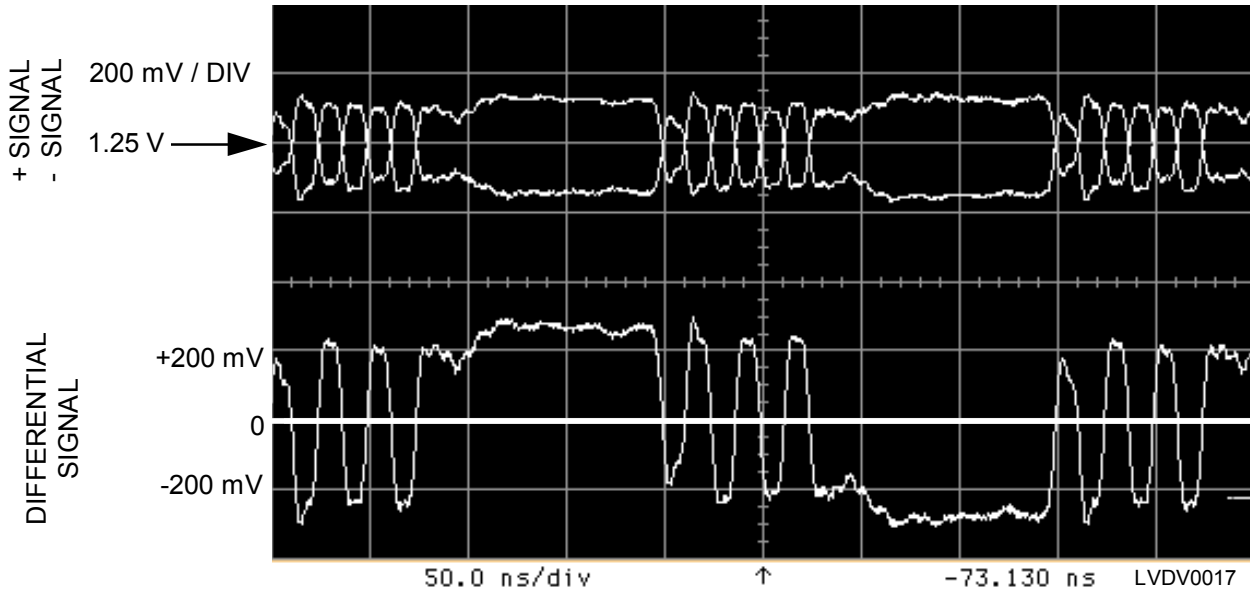


FAST SLEW RATE AT LOAD 8



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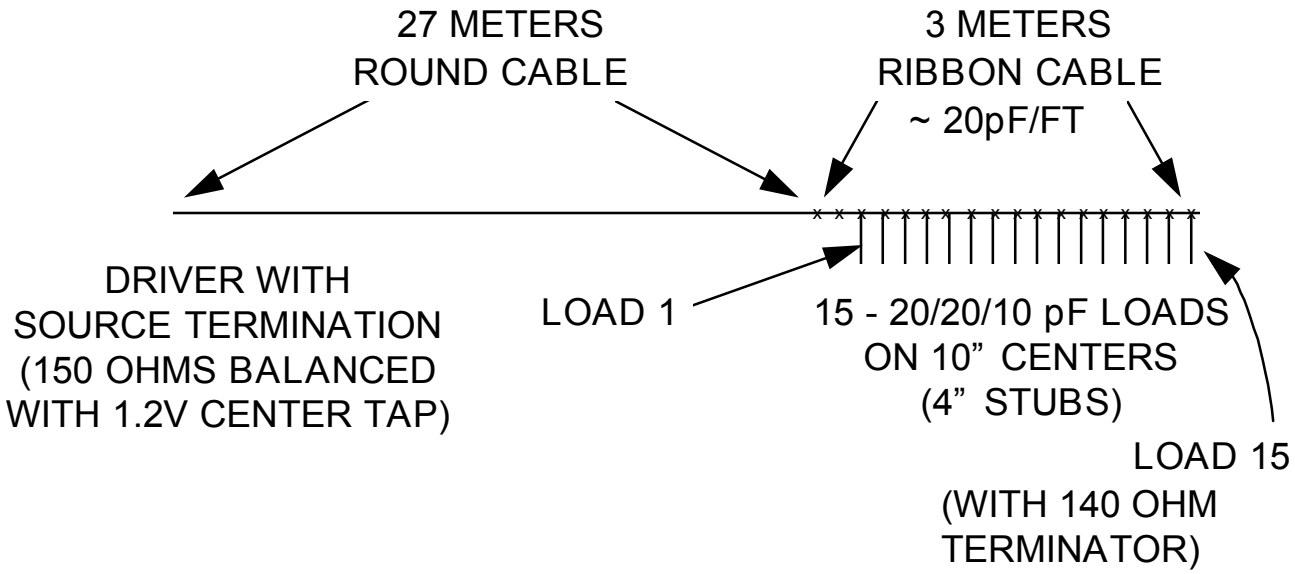
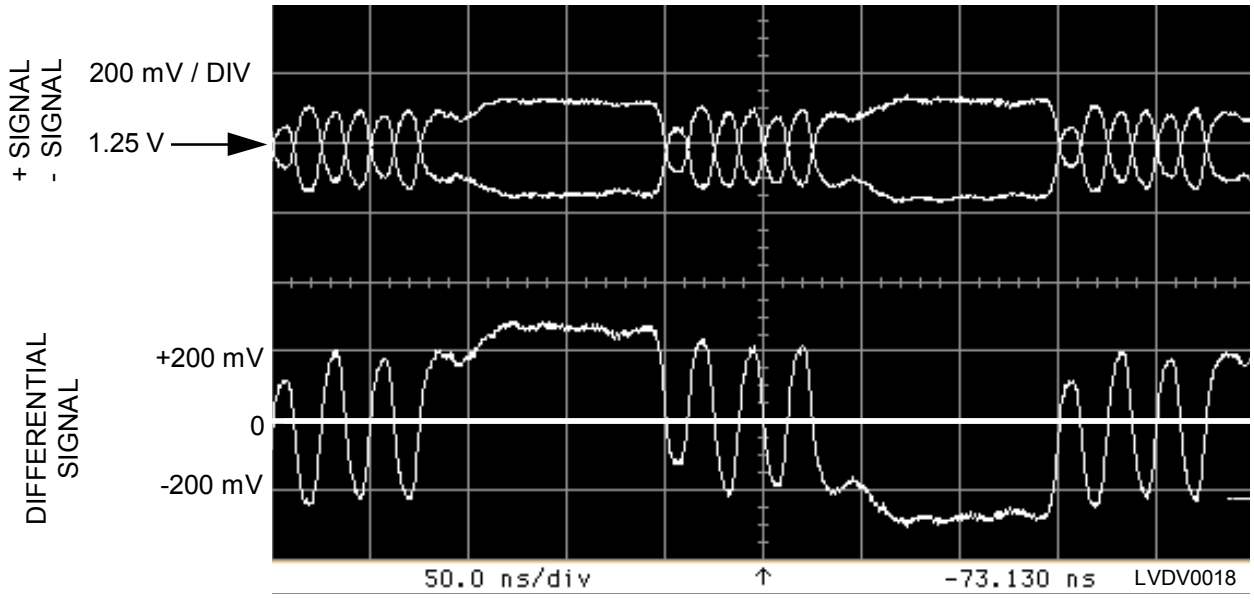


SLOW SLEW RATE AT LOAD 8



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