U320 TIMING SPECIFICATION

U320 WILL USE SKEW COMPENSATION SO WHAT MATTERS IS HOW FAR OFF CLOCK AND DATA CAN BE,

AND

THE QUALITY OF THE DATA EYE OPENING.

EXTRAPOLATING THE SAME NUMBERS BEFORE ARE NOT MEANINGFUL IF SKEW COMPENSATION IS IMPLEMENTED AND WE HAVE NO REAL WAY OF MEASURING MOST OF THE NUMBERS.

MOST HIGH SPEED SERIAL BUSES USE EYE MEASUREMENTS TECHNIQUES

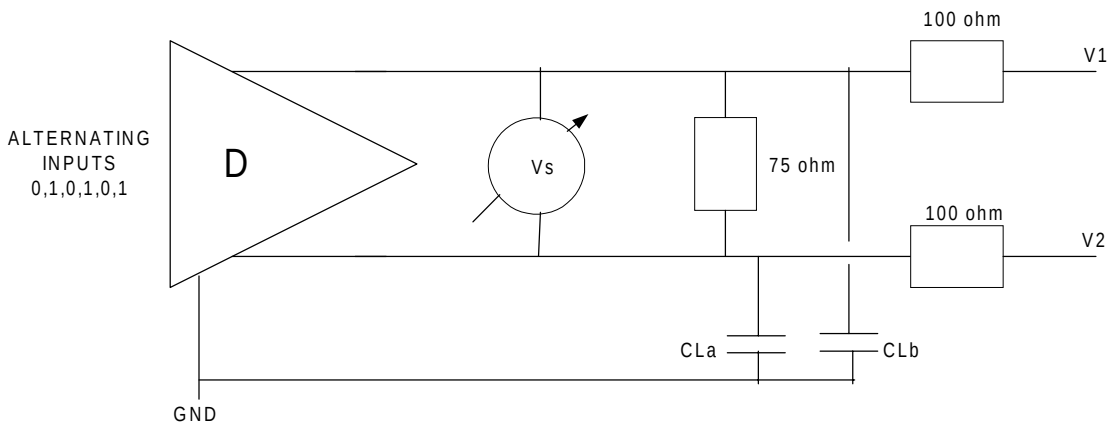
OUR COMPLICATION IS RELATING THE DATA EYE OPENING TO THE CLOCK SIGNAL. BECAUSE OF THIS WE HAVE TWO JITTER REQUIRMENTS (CLOCK AND DATA).

ALSO HOW DOES PRE-COMP EFFECT WHAT THE TRANSMITTER AND RECEIVER EYE WILL BE?

U320 TIMING SPECIFICATION

PROPOSAL WOULD USE A DEFINED TEST SETUP WITH A TRANSMIT EYE DEFINED WITH A MAX DISPLACEMENT OF THE CLOCK EDGE FROM THE DATA EDGE.

TRANSMITTER TEST SETUP



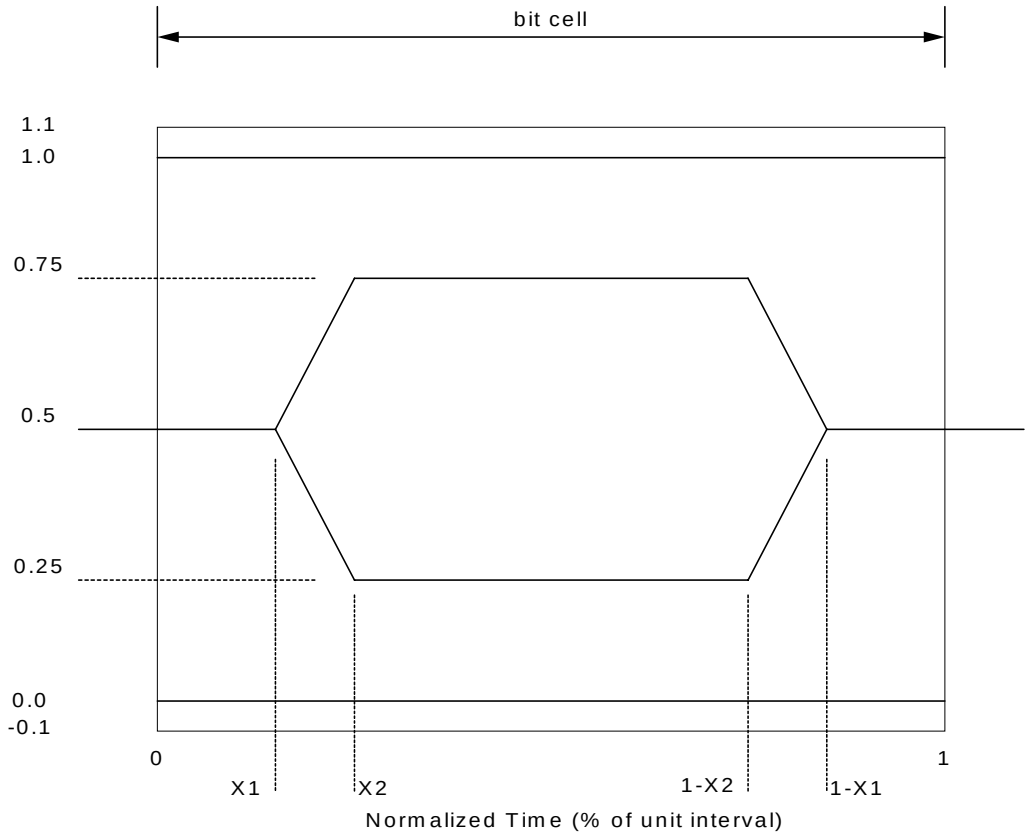
SAME AS CURRENT TEST SETUP

U320 TIMING SPECIFICATION

PROPOSED TRANSMITTER CHARACTERISTICS

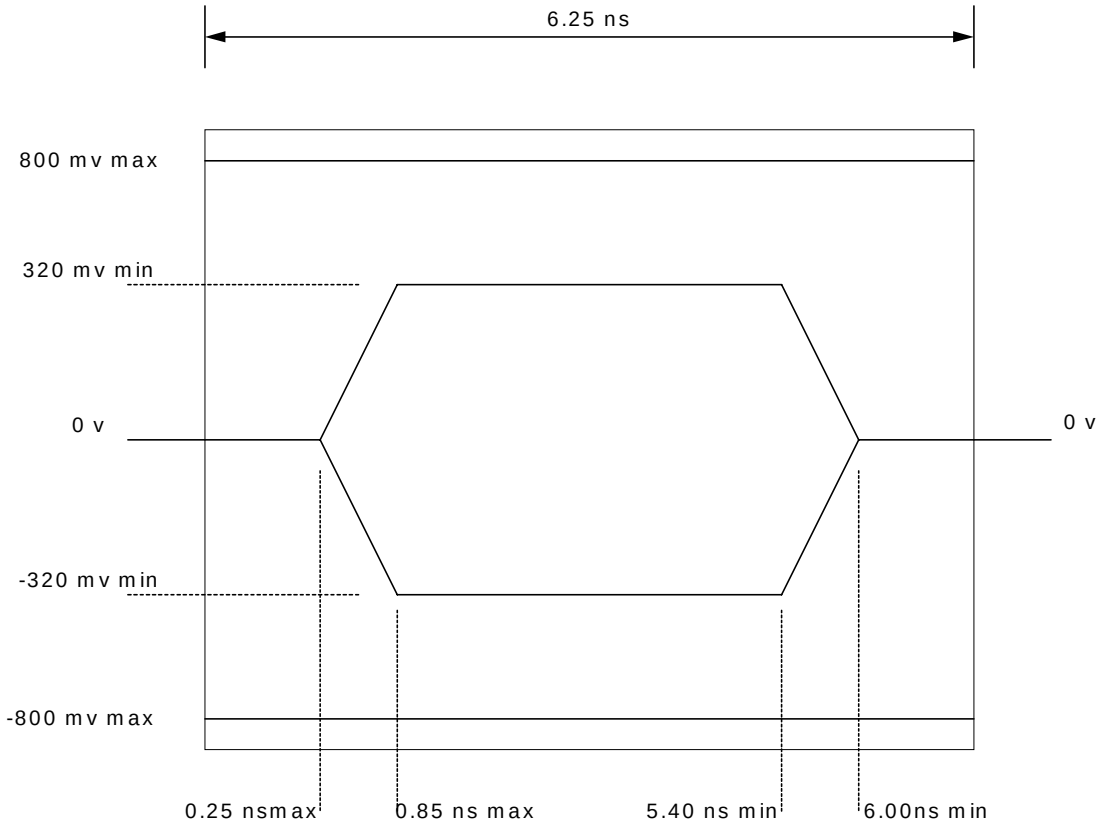
Parameter	U320	Units
Signaling	NRZ	
Nominal Data Rate	160	Mbit/sec
Nominal Baud Rate	160	Mbit/sec
Tolerance	100	ppm
Differential Amplitude		
Max	800	mv
Min	320	mv
Max (off)		
Rise/Fall Time (20-80%)		
Max	1.0	ns
Min	1.2	ns
Differential Skew	250	ps

U320 TIMING SPECIFICATION



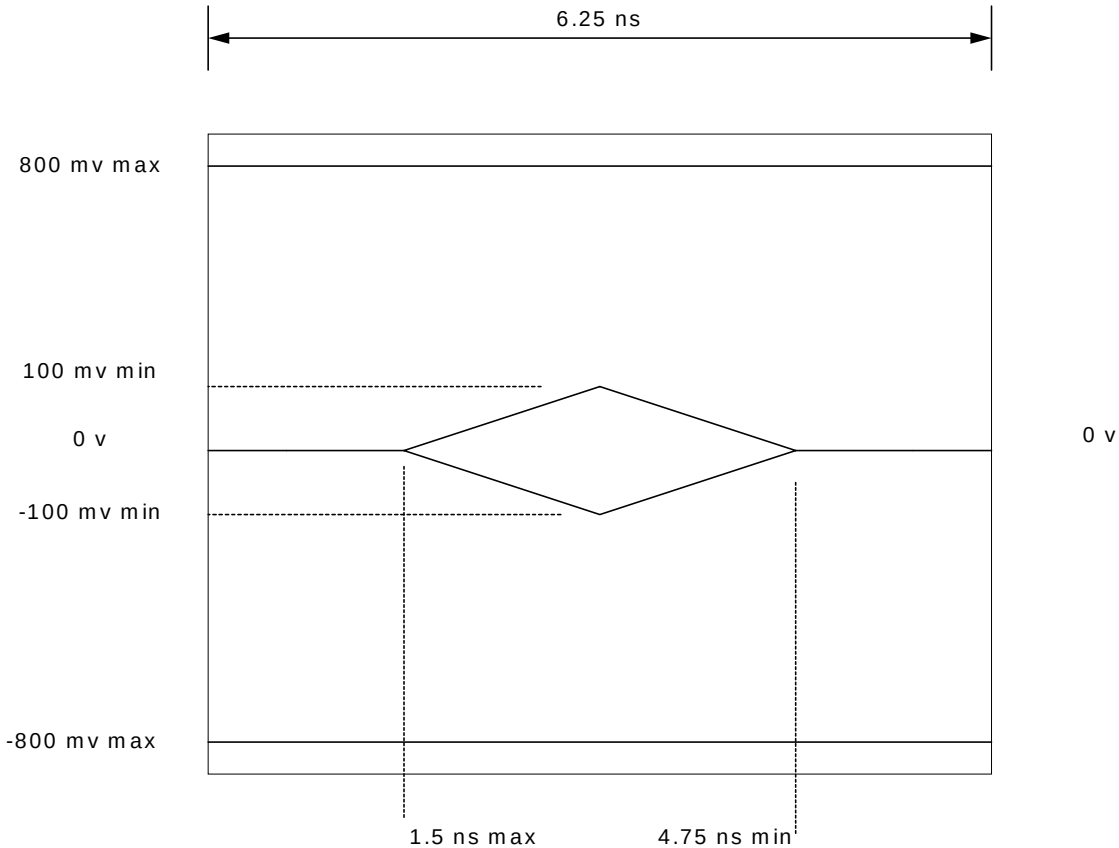
Symbol	Value	Units
X1	0.040	Unit Intervals (UI)
X2	0.200	Unit Intervals (UI)

U320 TIMING SPECIFICATION



PROPOSED VALUES TRANSMITTER

U320 TIMING SPECIFICATION



PROPOSED VALUES AT RECEIVER

U320 TIMING SPECIFICATION

Parameter	U320	Units
Signaling	NRZ	
Nominal Data Rate	160	Mbit/sec
Nominal Baud Rate	160	Mbit/sec
Tolerance	100	ppm
Maximum Differential Sensitivity	100	mv
Rise/Fall Time (20-80%)		
Max	1.0	ns
Min	2.5	ns
Differential Skew	5%	UI

JITTER ISSUES

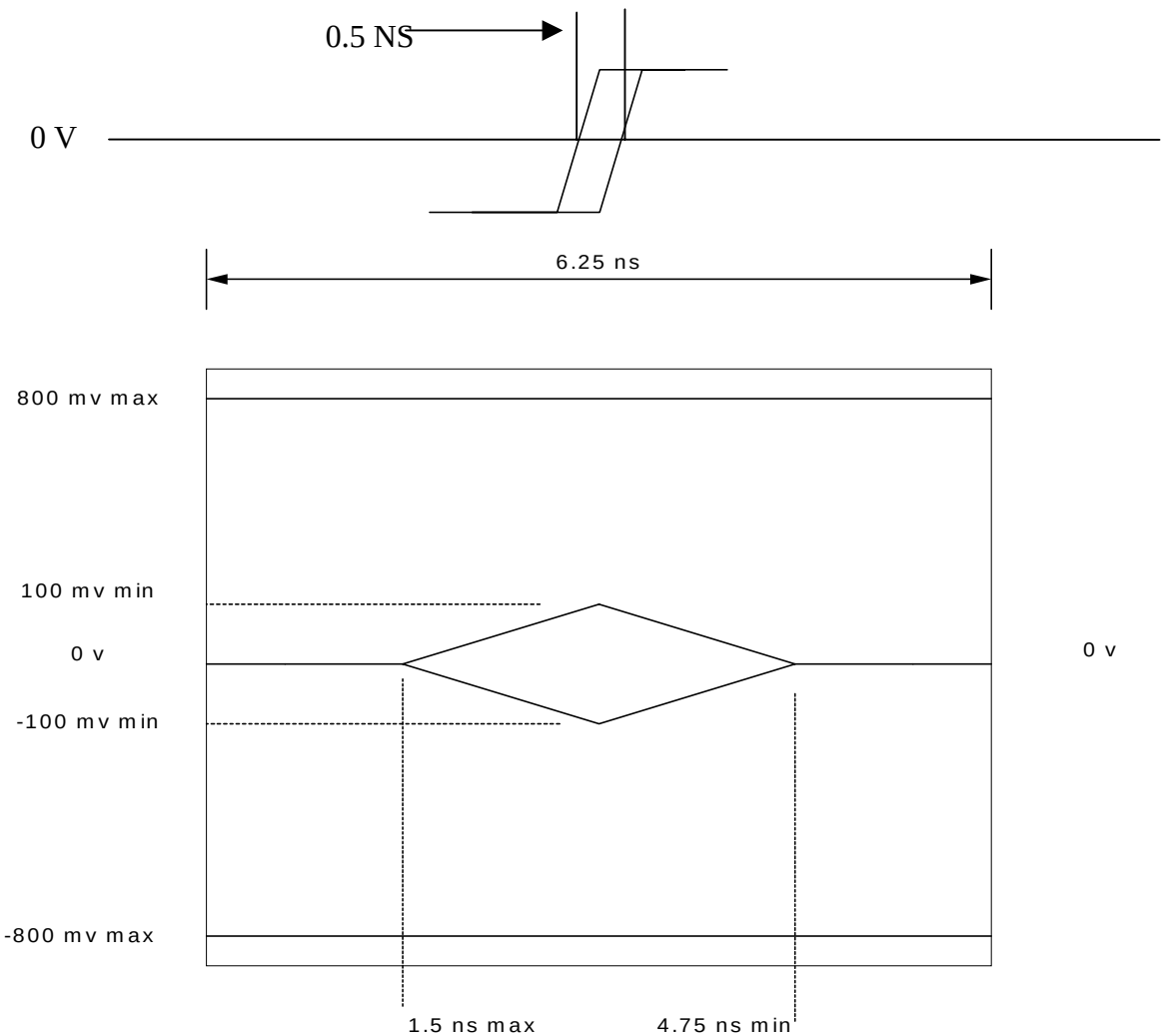
UNLIKE A SELF CLOCKING SYSTEM THE JITTER OF THE SEPARATE CLOCKING SIGNAL IS A CONCERN.

AT THE DRIVER END RELATIVE JITTER BETWEEN CLOCK AND DATA EYE SHOULD BE VERY SMALL.

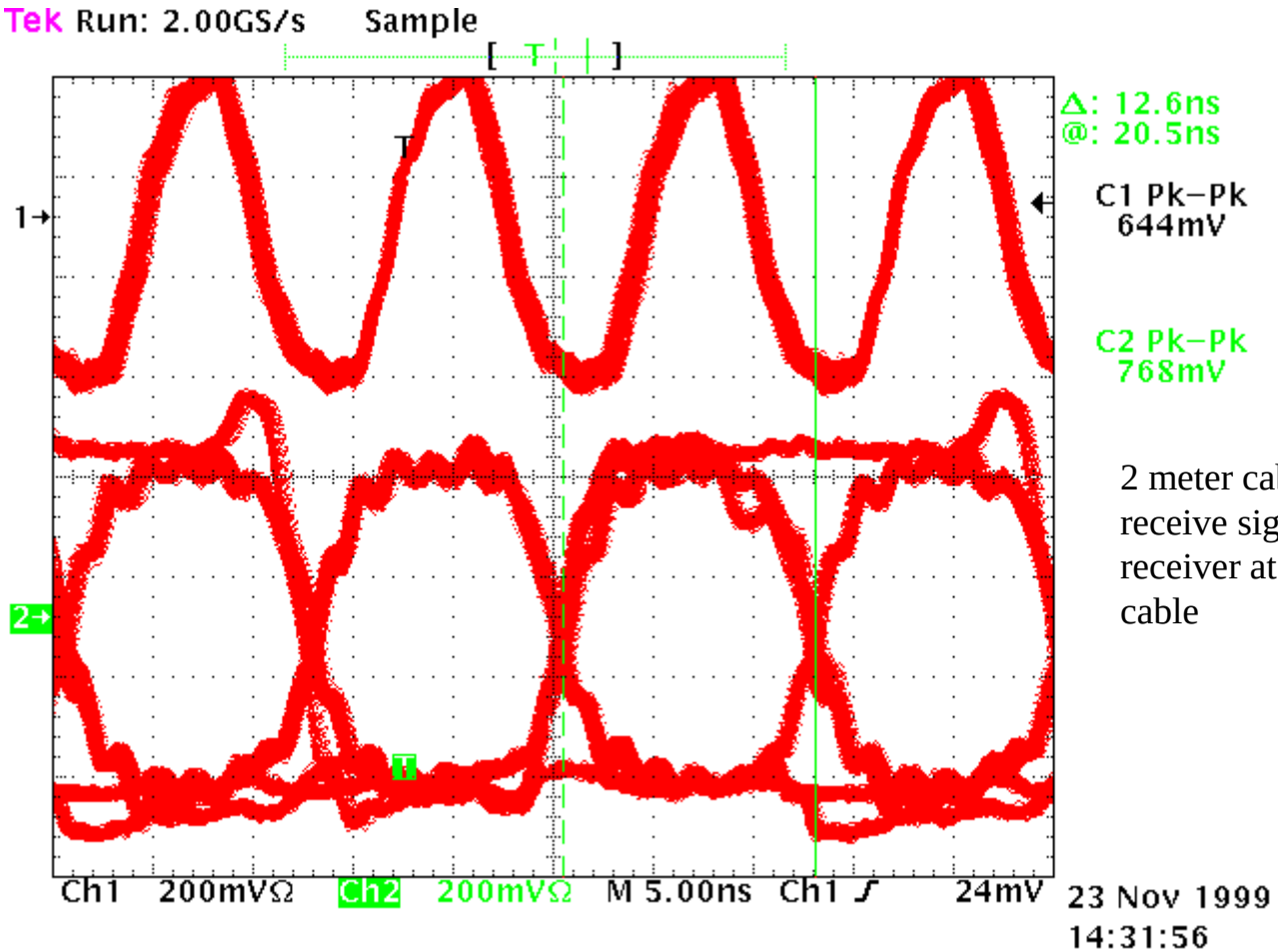
AT THE RECEIVER END JITTER (WIDTH OF THE CLOCK EDGE SKEW) MUST BE CONSIDERED AND NEEDS TO BE SMALL COMPARED TO THE EYE OPENING.

NEEDS TO BE DEFINED AS SHOWN IN NEXT FIGURE. FIGURE SHOWN IS AN EXAMPLE. NEEDS TO BE CONFIMED IF THIS IS REASONABLE.

U320 TIMING SPECIFICATION



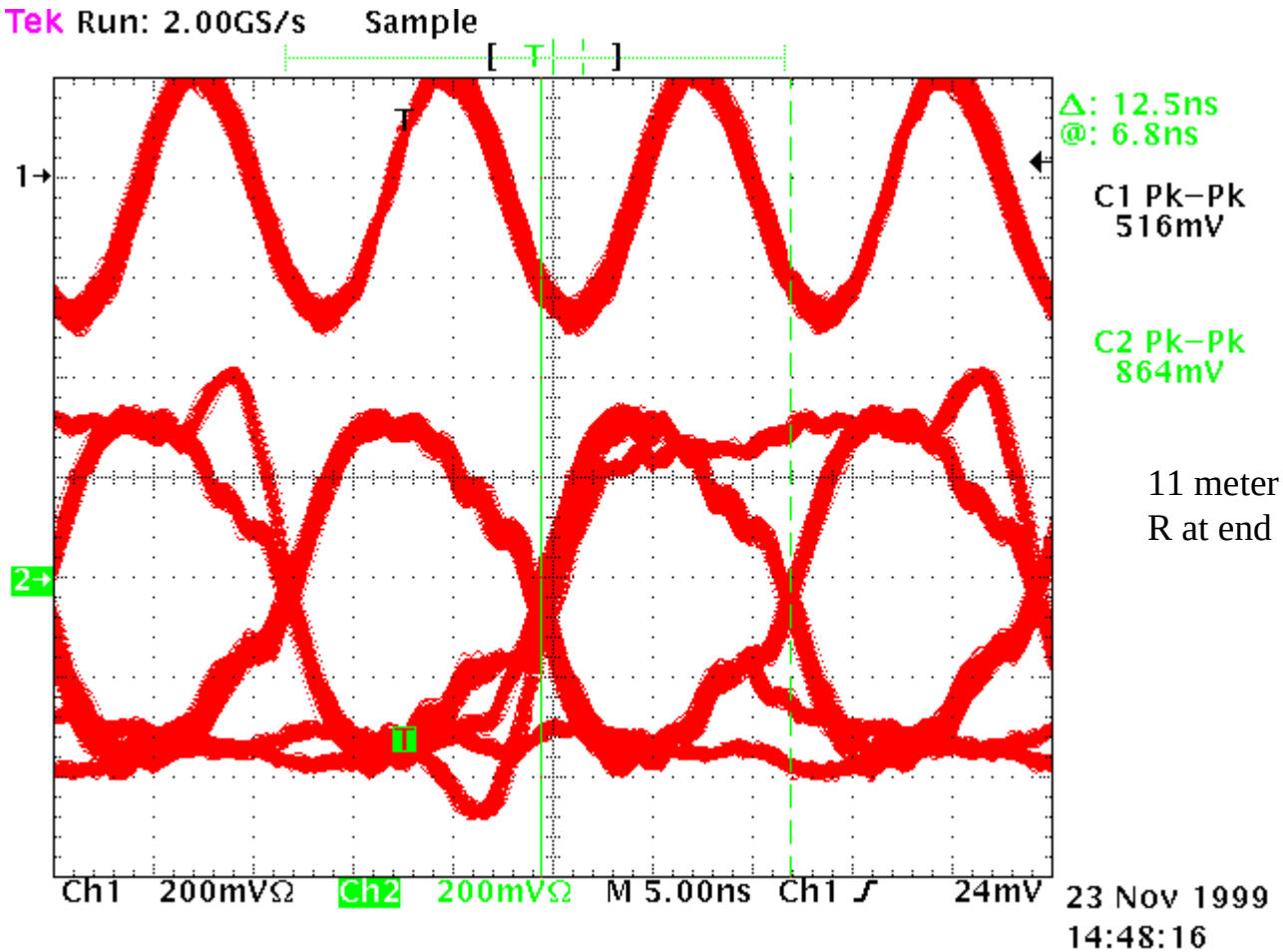
U320 TIMING SPECIFICATION



2 meter cable receive signal receiver at end of cable

SHOWS 0.86 NS JITTER ON CLOCK

U320 TIMING SPECIFICATION



SHOWS 1.25 NS JITTER ON CLOCK

U320 TIMING SPECIFICATION

NEED FURTHER DATA TO DEFINE LEVELS.

1. SET UP TEST CIRCUIT PER FIGURE A7 TO DETERMINE DRIVER EYE LIMITS.

2. TEST RECEIVER EYE LEVELS UNDER LONG, SHORT AND LOADED CABLE CONFIGURATIONS.

3. MEASURE LIMITS OF RECEIVER EYE JITTER UNDER LONG, SHORT, AND LOADED CABLE CONFIGURATIONS.

4. REVIEW AT NEXT MEETING.