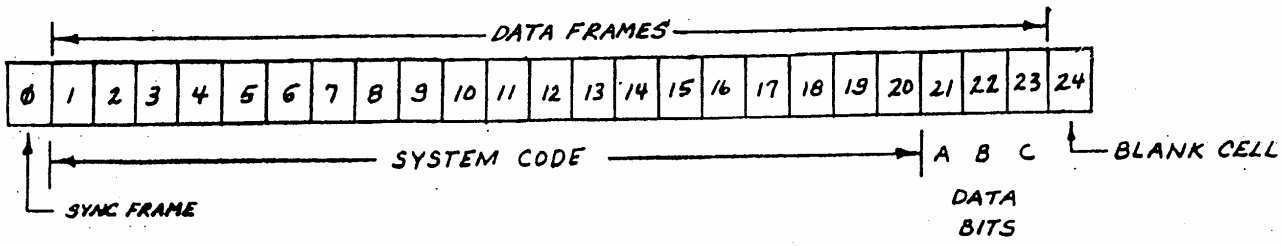
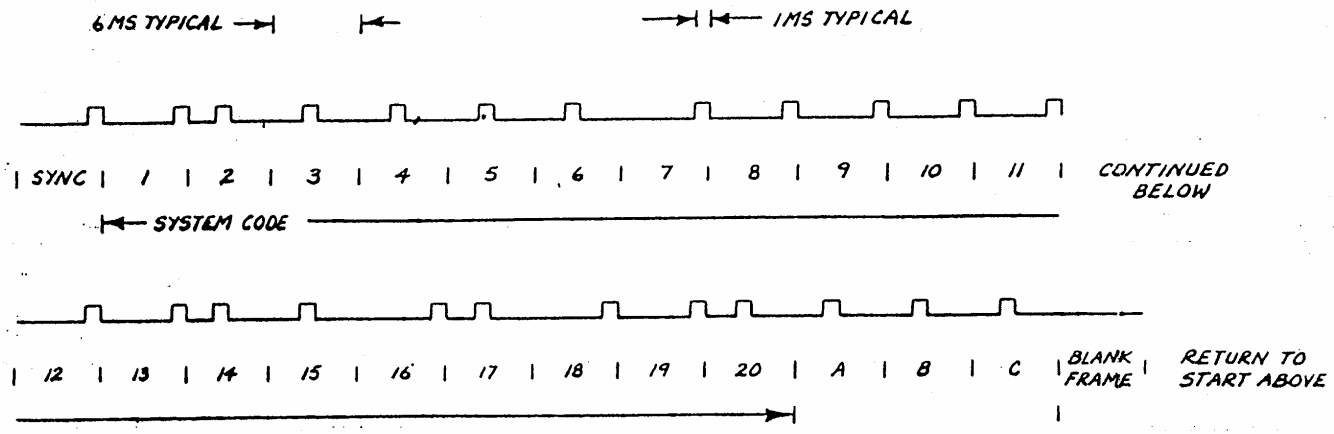
MEGACODE TIMING DIAGRAM





Megacode Timing Diagram and Duty Cycle Calculations

Duty Cycle is fixed because binary-coded, pulse-position type A1D modulation is used. Modulation rate is fixed at 167 bits per second. Therefore, each bit frame occupies 6 ms.

During transmission, the transmitter sequentially emits a group of 25 pulses in the form of a pulse-keyed carrier. Each pulse (transmitter ON time) has a duration of one millisecond (ms).

REAL TIME ANALYSIS: Refer to Page 2 for timing diagram. From time zero, one synchronization pulse of 1 ms duration occurs within a 6 ms "bitframe." Elapsed time: 6 ms.

Each of the remaining 24 information pulses occupy a 1 ms duration position within a 6 ms wide "bit frame" (24 frames). Total elapsed time: 144 ms.

DUTY CYCLE FACTOR:

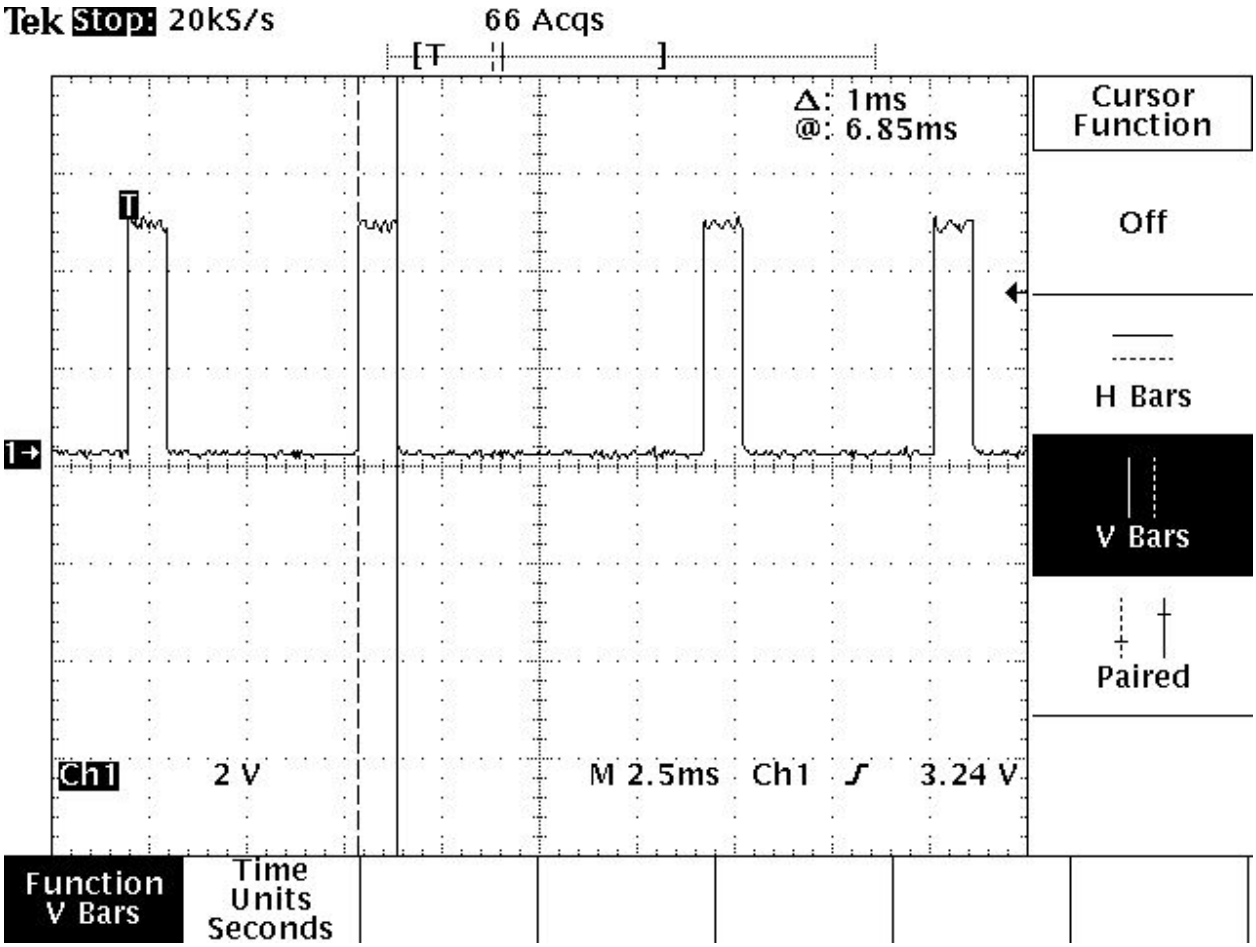
$\frac{25 \text{ pulses (1ms)}}{150 \text{ ms}} = .1\overline{6}(20_{\log} \text{ voltage}) - -15.56\text{dB}$ (-16 practical)

This calculation is based on a 150 ms total cycle time which is representative of actual operation.

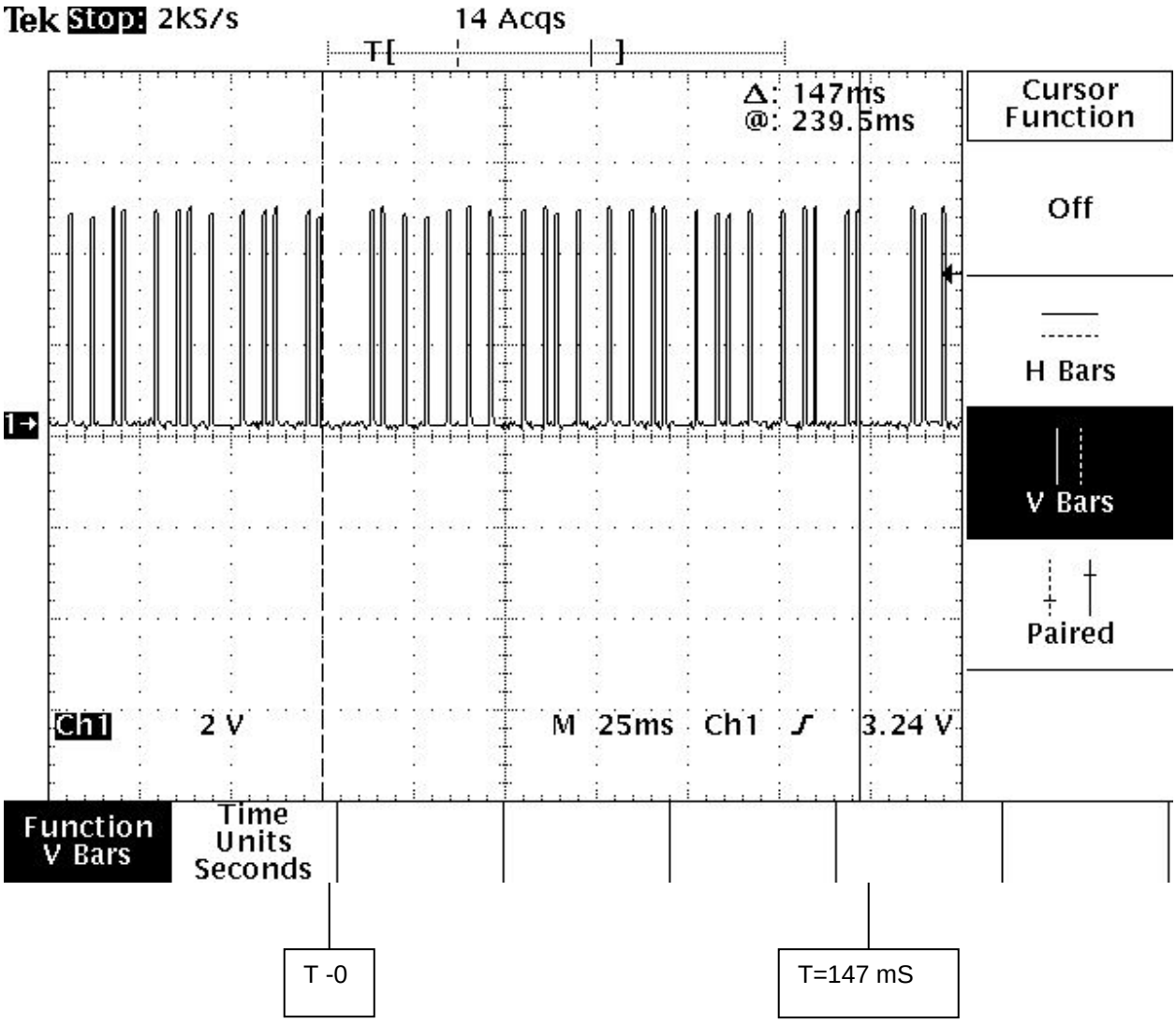
In compliance with Rule 15.205(b), the following duty cycle factor is used for all field strength calculations:
For a worst-case 100 ms interval occuring during the 144ms-long string of 24 bit frames:

$\frac{100 \text{ ms}}{6 \text{ ms}}$ interval per frame $= 16.\overline{6}$ frames average, 17 pulses possible.

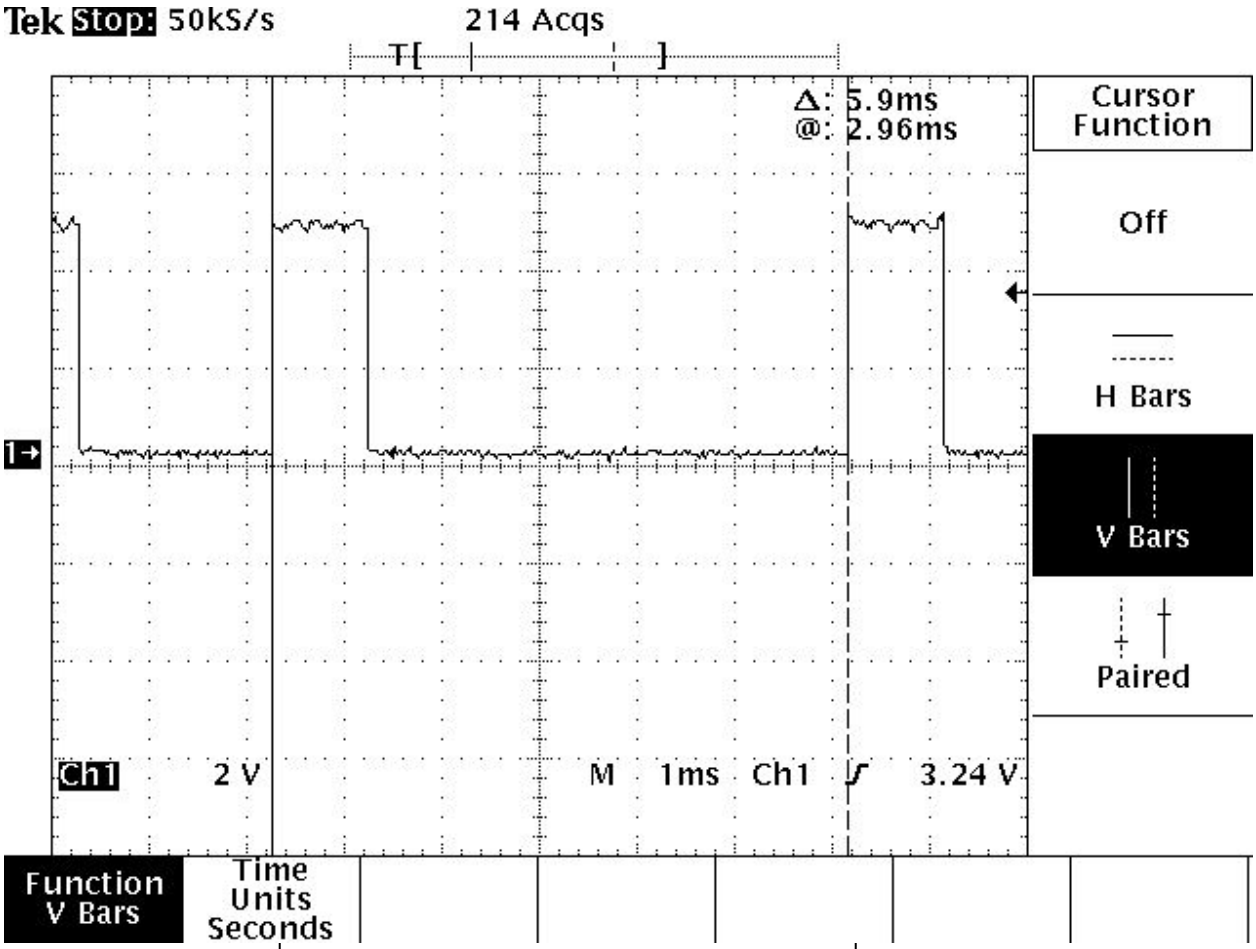
$.17(20_{\log} \text{ voltage}) = -15.6$ dB



PULSE DURATION, SINGLE PULSE TIME
ONE MILLISECOND DATA PULSES



ONE COMPLETE DATA WORD, MEGACODE FORMAT



Nominal 6 mSec. data window, with 1 mSec. pulses

Single Data Pulses, 1 mSec. pulses in a 6 mSec. data window.

MCT-3 Transmitter, Data Stream recorded from a storage oscilloscope onto a floppy disk.