

DURATION OF RF TRANSMISSIONS

DXS-80

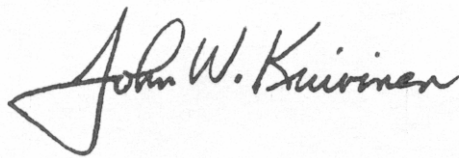
CARBON MONOXIDE ALARM TRANSMITTER

This transmitter is normally automatically activated. It is externally triggered using a locally annunciated carbon monoxide alarm. As such, it may be operated continuously by the user (FCC Rules 15.231(a)(4)) during the pendency of the alarm.

When the test push button is pressed, due to battery constraints and an accidental continuous activation causing interference to the system, the maximum length transmission for a single press of the test pushbutton is one second.

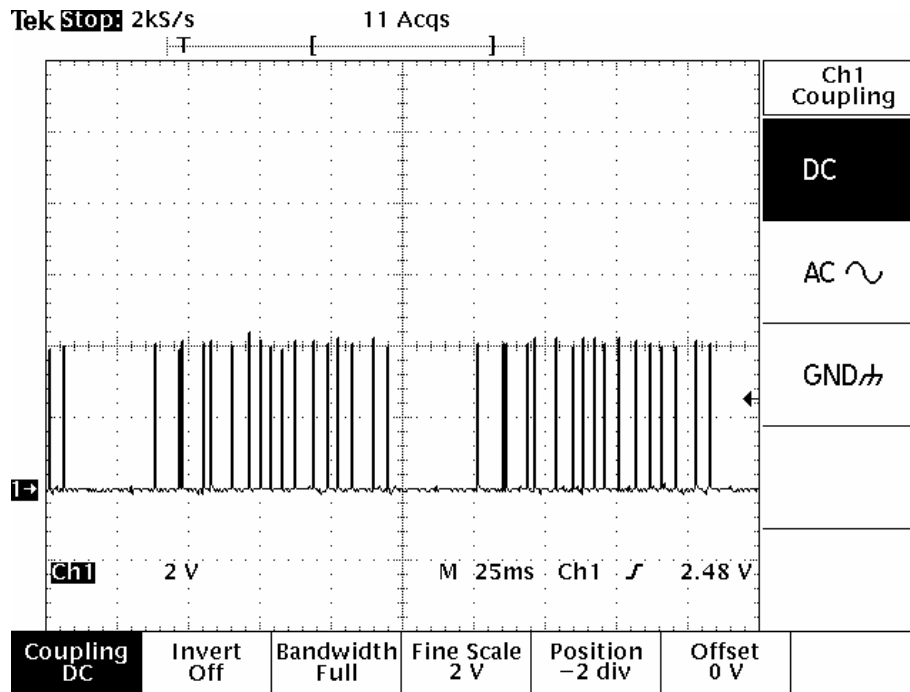
If the push button is quickly pressed and released, the transmitter will cease transmitting after one second. FCC Rules 15.231 (a)(1) allows no longer than 5 seconds upon the release of a manually activated transmitter.

Signed:

A handwritten signature in black ink that reads "John W. Kuivinen". The signature is written in a cursive style with a large, stylized initial 'J'.

John W. Kuivinen, P.E.
Regulatory Compliance Engineer

Transmitter Duty Cycle Calculations

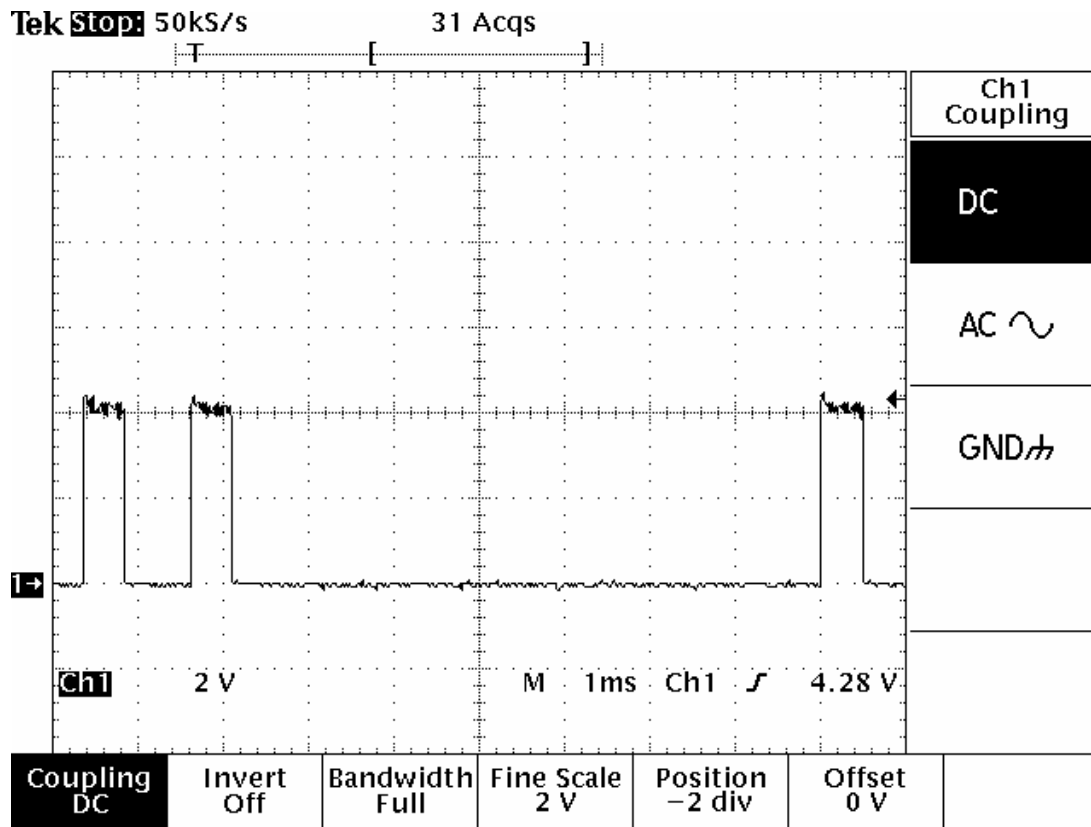


and Time
Domain
Information
DXS Data
Format

17 BITS / DATA WORD + 3 BLANK FRAMES BETWEEN WORDS

DATA WORD = 20 X 5000 USEC = 100 MILLISECONDS FOR NOMINAL
DATA WORD FRAME

TWO DATA WORDS SHOWN ABOVE



INDIVIDUAL DATA PULSES, QUATERNARY ENCODED DATA FORMAT

500 MICRO SECONDS FOR EACH DATA PULSE

TIME DURATION FOR EACH PULSE IS FIXED

3 DATA PULSES SHOWN ABOVE

Transmitter Duty Cycle Calculations and Time Domain Information DX / DXS Data Format

Worst case duty cycle is computed because coded pulse position type A1D modulation is used. Data rate is seventeen 500 uSec pulses in any 100 mSec. time window.

During transmission, the transmitter sequentially emits a group of 17 encoded pulses in the form of a pulse-keyed carrier. The data stream consists of preamble and encoded data string.

REAL TIME ANALYSIS:

Description	Total Time	"On" Time
Total Transmission	17 x 500 uSec.	= 8.5 E-3 Sec on time

In compliance with FCC Rules 15.35(c), the following duty cycle factor is used for all field strength calculations. A 100 mSec. full word time window is selected with the worst case programmable on time ratio.

$$\frac{8.5 \text{ E-3 On time}}{100 \text{ E-3 Total time}} = 8.5 \text{ E-2 on time per 100 mSec. time window}$$

$$20 \log (8.5\text{E-2}) = -21.4 \text{ dB} \qquad 20 \text{ dB Duty Cycle Ratio (Per FCC Rules)}$$