Application for Certification

FCC ID: EF4 SST00116

DXS-80 Carbon Monoxide Alarm Transmitter

Submitted by: Linear LLC
1950 Camino Vide Roble, Suite 150
Carlsbad, California 92008
760-438-7138
760-438-7043 (FAX)

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DXS-80 Carbon Monoxide Alarm Transmitter

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STATEMENT OF ATTESTATION

Model: DXS-80 Carbon Monoxide Alarm Transmitter

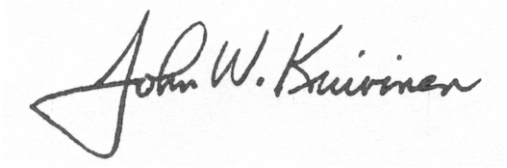
FCC ID: EF4 SST00116

The equipment under test is a low powered carbon monoxide alarm transmitter used with the 315 MHz DVS and PERS family of alarm receivers. Every 1.1 hours this transmitter sends a supervisory signal and battery report.

This equipment has been tested in accordance with the requirements contained in the appropriate Commission regulations. To the best of my knowledge, these tests were performed using measurement procedures consistent with industry or commission standards and demonstrate that the equipment complies with the appropriate standards. Each unit manufactured, imported or marketed, as defined in the Commission's regulations, will conform to the sample(s) tested within the variations that can be expected due to quantity production and testing on a statistical basis.

I further certify that the necessary measurements were made by Linear LLC, 1950 Camino Vide Roble, Suite 150, Carlsbad, California. 92008.

Certified by:



_____

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

Date: July 18, 2006

FCC IDENTIFICATION LABEL

Model: DXS-80 Carbon Monoxide Alarm

Linear Corp. requests authority to use the label as depicted, in accord with Section 2.925(e) of the Commission's Rules, follows herein.

LABEL FACSIMILE

Linear LLC
FCC ID: EF4 SST00116
Model: DXS-80
Product ID: SST00116
IC: 1078A-SST00116
Wireless CO Alarm
Frequency: 315 MHz

Request for Authorization of Section 2.925(e)

The device for which Linear seeks authority is small in size and also requires extensive UL warning text, it therefore does not lend itself to the placement of a FCC label, with associated warnings and instructions, in accord with the FCC labeling requirements.

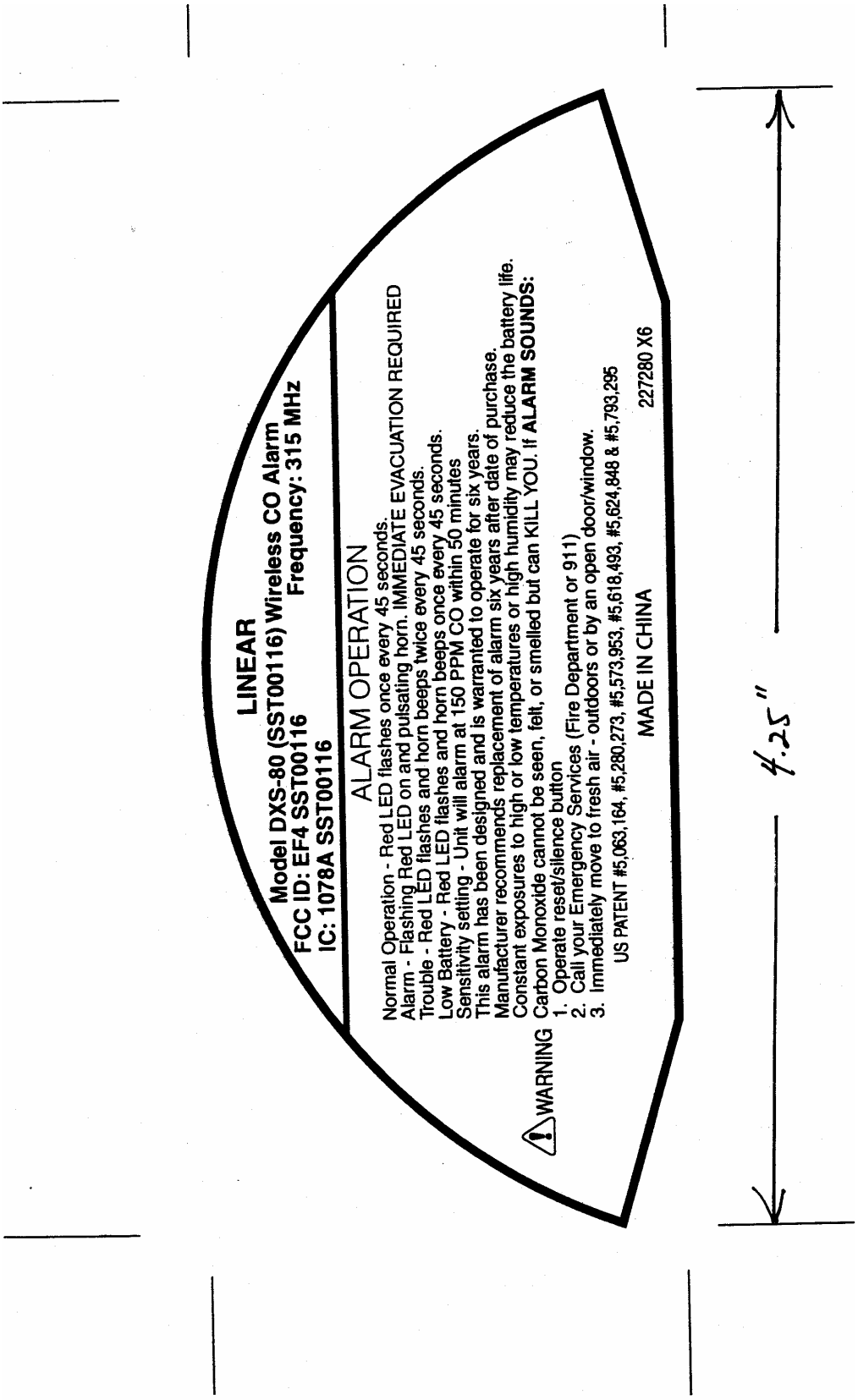
For Linear to produce such a label, the type size would be too small as to be useful to purchasers of the device. Accordingly, Linear requests authority to place upon the device an identification label such as the one depicted herein identified as LABEL FACSIMILE.

The additional information which is normally required to be included with the FCC Identification Number in accord with Part 15 of the Commission's Rules shall be located herein as portion of the draft manual attached hereto.

Accordingly, in accord with Section 2.925(e) of the Commission's Rules and past Commission decisions, Linear hereby requests authority to label its devices in the manner described herein.

The user instruction manual will have the full text of the FCC disclaimer printed in a prominent location as follows:

> This device complies with FCC Part 15 and Industry Canada Rules and Regulations. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received , including interference that may cause undesired operation.


LINEAR
Model DXS-80 (SST00116) Wireless CO Alarm
FCC ID: EF4 SST00116
Frequency: 315 MHz
IC: 1078A SST00116
ALARM OPERATION
Normal Operation - Red LED flashes once every 45 seconds.
Alarm - Flashing Red LED on and pulsating horn. IMMEDIATE EVACUATION REQUIRED
Trouble - Red LED flashes and horn beeps twice every 45 seconds.
Low Battery - Red LED flashes and horn beeps once every 45 seconds.
Sensitivity setting - Unit will alarm at 150 PPM CO within 50 minutes
This alarm has been designed and is warranted to operate for six years.
Manufacturer recommends replacement of alarm six years after date of purchase.
Constant exposures to high or low temperatures or high humidity may reduce the battery life.
WARNING Carbon Monoxide cannot be seen, felt, or smelled but can KILL YOU. If ALARM SOUNDS:
1. Operate reset/silence button
2. Call your Emergency Services (Fire Department or 911)
3. Immediately move to fresh air - outdoors or by an open door/window.
US PATENT #5,063,164, #5,280,273, #5,573,953, #5,618,493, #5,624,848 & #5,793,295
MADE IN CHINA
227280 X6
4.25"

FCC/IC

This device complies with FCC Rules Part 15 and Industry Canada Rules and Regulations. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation

LINEAR LIMITED WARRANTY

This Linear product is warranted against defects in material and workmanship for twelve (12) months. The Warranty Expiration Date is labeled on the product. **This warranty extends only to wholesale customers** who buy direct from Linear or through Linear's normal distribution channels. **Linear does not warrant this product to consumers.** Consumers should inquire from their selling dealer as to the nature of the dealer's warranty, if any. **There are no obligations or liabilities on the part of Linear LLC for consequential damages arising out of or in connection with use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstallation.** All implied warranties, including implied warranties for merchantability and implied warranties for fitness, are valid only until Warranty Expiration Date as labeled on the product. **This Linear LLC Warranty is in lieu of all other warranties express or implied.**

All products returned for warranty service require a Return Product Authorization Number (RPA#). Contact Linear Technical Services at 1-800-421-1587 for an RPA# and other important details

IMPORTANT!!!

Linear radio controls provide a reliable communications link and fill an important need in portable wireless signaling. However, there are some limitations which must be observed.

* For U.S. installations only: The radios are required to comply with FCC Rules and Regulations as Part 15 devices. As such, they have limited transmitter power and therefore limited range.
* A receiver cannot respond to more than one transmitted signal at a time and may be blocked by radio signals that occur on or near their operating frequencies, regardless of code settings.
* Changes or modifications to the device may void FCC compliance.
* Infrequently used radio links should be tested regularly to protect against undetected interference or fault.
* A general knowledge of radio and its vagaries should be gained prior to acting as a wholesale distributor or dealer, and these facts should be communicated to the ultimate users.

FCC

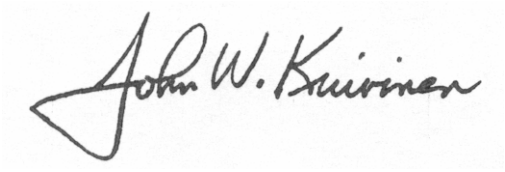
Summary of Test Results
in accord with FCC Rules Part 15 and C63.4-2003

Equipment Model:	SST00116
Transmitter Tested to C63.4-1992 Section:	FCC Rules 15.231
Field Strength at a distance of 3 meters:	5820 uV/Mtr (- 0.3 dB below limit) @ 315 MHz
Peak to Average Ratio:	20 dB - Fixed Duty Cycle
Test Conditions:	Radiated (Sections 11 & 13)
Transmitter: Transmitter Frequency:	315 MHz Nominal (Factory Tuned Only)
Bandwidth (20 dB down)	< 0.010% of Center Freq.
Frequency Tolerance:	N/A (Nominal +/- 0.125 MHz)
Frequency Stability:	N/A (Nominal +/- 0.125 MHz)
Transmitter Spurious at 3 meters: (Worst Harmonic)	168 uV/Mtr (- 11 dB below limit)
Frequency:	630 MHz
Momentary Operation (Yes/No)	No
Holdover time after manual release:	N/A
Duration of alarm transmission after activation: the CO detector is in an alarm condition.	1.0 second transmission every 20 seconds only when

Attestation:

The radio apparatus identified in the application has been subject to all the applicable test conditions specified in FCC Rules Part 15 and all of the requirements of the Standard have been met.

Regulatory Compliance Engineer



John W. Kuivinen, P.E. _____ Date: __ July 18, 2006 _

Radio Standard Specification
Low Power Communication Devices
C63.4-2003 and FCC Rules Part 15

1.0 General:

1.2, Exclusions to TV Broadcast Freq.	Complies

2.0 Related Documents:

Reference Documents for Application:	CFR 47, FCC Rules Part 15

3.0 Test Equipment:

Supply Voltage:	One fresh 9 volt MN1604 alkaline battery
Test Equipment List	See Section 6
Signal Detector:	Peak with 20 dB peak to average conversion.

4.0 Certification and Test Results:

Summary of Results per	See Section 2 of this Report

5.0 General Technical Requirements:

5.1 Testing Methods:	Peak Signal pulse modulated A1D signal.
5.1 Reference Standard:	C63.4-2003 (FCC Procedure)
5.2 Modulation:	Pulse Positon A1D, AM Modulation
5.3 Type of Antenna:	Integral to transmitter PCB - tuned loop
5.4 External Controls:	Push Button - Manual Test Activation Button No user serviceable parts except for replacement of battery.
5.5 Accessories:	NONE
5.6 TX Bandwidth:	<0.010 % (See Section 7)
5.7 Equipment Labels:	See Section 2
5.8 Manual Disclaimer:	See attached draft copy of manual (Section 9)
5.9 Usage Restrictions:	Digital Pulse Code Only

6.0 Transmitter Characteristics and Tests:	
6.1 Momentary Operated Devices:	Complies
6.1(a) Types of Signals:	Manual Push to Transmit, Test Signal Only
6.1(a) Automatic Activation:	Yes, a 1.0 second status transmissions every 1.1 hours.
6.1(a) Five Second Max. upon release:	Complies
6.1(b) Field Strengths:	Per Section 7: 315 MHz = 6042 uV/Mtr at 3 meters.
6.1(c) Bandwidth (20 dB down)	<0.010 % Complies
6.1(d) Frequency Stability	N/A per regulations +/- 0.125 MHz Maximum Error
6.1(e) Reduced Field Strength	N/A
6.2 Non-Momentary Operated Devices:	N/A
6.2.1 Frequency Bands:	Refer to Section 7
6.3 Restricted Bands:	Complies
6.5 Pulsed Operation:	Complies (20 dB Peak/Average) See Section 7
6.6 Wireline Conducted Emissions:	N/A
7.0 Receivers	N/A
8.0 Self Certification:	N/A
9.0 AC Wireline Conducted Emissions:	N/A
10.0 Terminated Measurement Method:	N/A
11.0 Radiated Measurement Method:	See Section 7
11.1 Measuring Distance:	Complies
11.2 Open Field Test Site:	Complies, C63.4-2003
11.3 Equipment Test Platform:	See Section 7
11.4 Measurement Method:	Complies, See Section 6
12.0 DC Power Consumption Methods:	N/A
13.0 Near Field Measurement for < 30 MHz:	N/A
14.0 Test Report Submission:	See Attached

SPECIFICATIONS, DXS-80

1.0 DESCRIPTION

The DXS-80 is a single station, battery powered, self-contained, Carbon Monoxide (CO) Alarm (detector). It has an integral RF transmitter for communicating with Linear's alarm consoles such as the PERS-3600 and DVS-2400. The DXS-80 is suited for apartments, condominiums and other households. This unit is not designed for use in autos, RV's, motor homes, aircraft or boats.

2.0 CO DETECTION

The detector uses a patented Biomimetic CO sensor that is monitored by an electronic micro-controller. CO measurement is done by pulsed infrared light every 45 seconds.

3.0 FEATURES

Low power requirement provides long battery life.
Dual function TEST/RESET pushbutton with red LED visual indicator.
Automatic SELF-DIAGNOSTIC TEST performed every ten minutes.
RF transmitter sends detector status every 1.1 hours.

4.0 DETECTOR SPECIFICATIONS

ENCLOSURE: Plastic, 5" diameter, height: 1.5". Material: Noryl, color: off-white.

BATTERY DOOR: Open to remove or install battery (includes battery removed warning flag). Battery pull-tab for activation.

MOUNTING: Wall or ceiling (near sleeping areas preferred) via locking mounting ring, owner's manual, locking pin, 2 wall anchors and mounting screws are included.

POWER: Standard 9V alkaline battery included. Standby current draw: 5-10 uA. Current draw in alarm: 25 mA average.

LOW-BATTERY: voltage detection. Threshold 7.7 V. Audible low battery signal: one 10 mSec. chirp every 45 seconds.

MAINTENANCE: Vacuum dust accumulation annually and perform TEST function weekly.

NORMAL OPERATION: On power up, performs self-test & 2 alarm patterns if OK.
Red LED indicator (lens of test/reset button) flashes once every 45 seconds.

CO DETECTION: Biomimetic CO sensor. Microcontroller detector operation.
Measurement is by pulsed infrared photoelectric every 45 seconds.

AUDIBLE ALARM RECOVERY: 3-5 minutes (clear air). Sensor full recovery (Typical): Ambient: 70 ppm 4 hours, 150 ppm 8 hrs, 400 ppm 12 hrs.

ALARM: CO response concentrations-times, conditions and false-alarm resistance per UL 2034: 70ppm 60-240 minutes, 150ppm 10-50 minutes, 400ppm 4-15 minutes.

VISUAL ALARM INDICATOR: Red LED flashes during beeper pulsing pattern.

AUDIBLE ALARM: Internal beeper sounds loud repetitive pulsing alarm tone pattern: Pattern cycle: Four 100 mSec. beeps, 100 mSec. apart, followed by 5 seconds of silence. Tone frequency: approx 3.3 kHz. Loudness: 85 dB minimum at 10 ft.

TROUBLE SIGNAL: Activated by sensor end-of-life, operational end-of-life or sensor circuit fault found during self-test:

TROUBLE (Fault) signal: Double beep and red LED flash every 45 seconds.

TEST-RESET: Dual function via a single pushbutton (momentarily-press until beep) that activates the TEST function if unit is not in alarm or the RESET function if unit is in alarm.

TEST checks sensor, measuring circuit and horn. Red LED flashes to indicate a test is in progress -about 5 seconds. Two ALARM cycles are sounded if the TEST is OK or TROUBLE signal if not OK.

RESET silences the ALARM for 4 minutes. ALARM will sound after this time if recovery has not commenced (clear air). RESET cannot be repeated unless unit has recovered and re-alarms.

OUTPUTS: (For connection to RF transmitter - transmitter PCB mounted internally). Power 3.3V, Ground, Signals: Alarm, Test, Low Battery, Fault (trouble).

END-OF-LIFE: Non-resetable Trouble signal after 6 years (operational).

COMPLIANCE: UL Safety Standard 2075-2034.

TEMPERATURE: Operating/storage: 0 -49 deg. C. (32-120F). Not for unconditioned areas, attics, garages, outdoor, RV's, aircraft or boats.

HUMIDITY: Operating 15 -95% RH (non-condensing).

5.0 RF TRANSMITTER SPECIFICATIONS

PCB Assembly Size: 1.9 x 1.4 x .85 inches. Interfaces with smoke detector PCB via a six-wire connector.

Frequency: 315 MHz, +/- 125 kHz.
Encoding Format: DXS Format.
System Range: 300 feet, open air, typical.
Operating Voltage: 3.3 Volts. Detector supplies regulated voltage to transmitter PCB.

Status Supervision: A one-second status signal is transmitted every 1.1 hours, +/- 10%. A one-second alarm transmission is sent immediately when an alarm trigger is sent from the CO detector and every 20-second interval thereafter for as long as the detector is in an alarm condition.

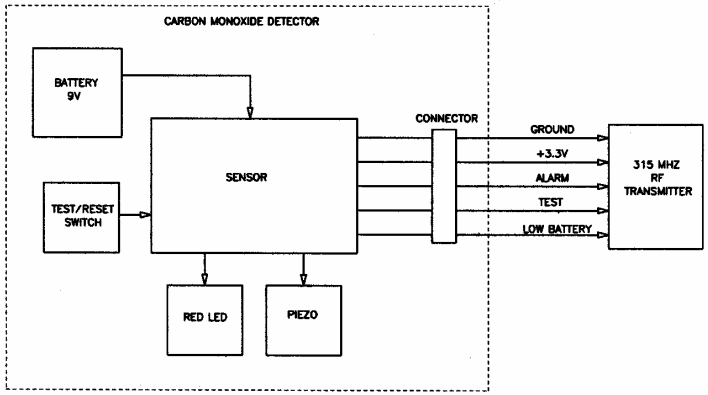
Note: The reset function does not stop these transmissions.

Temperature Range 20°C to 60°C.

6.0 REGULATORY

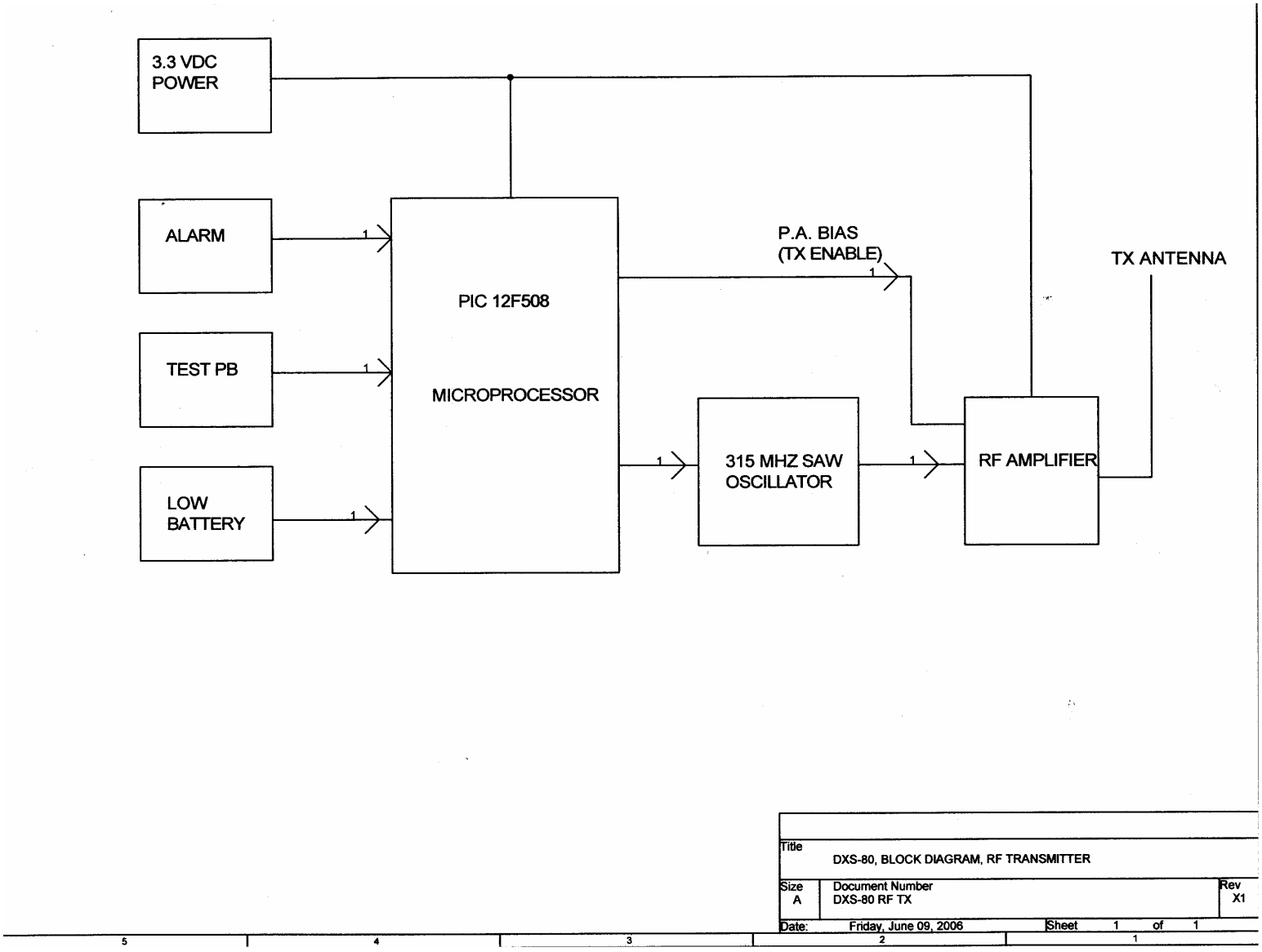
FCC Part 15 @ 315 MHz.
DOC (CSA 6.19 TBD)
UL 2034,2075
ULC TBD

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
X1	ENGINEERING RELEASE		

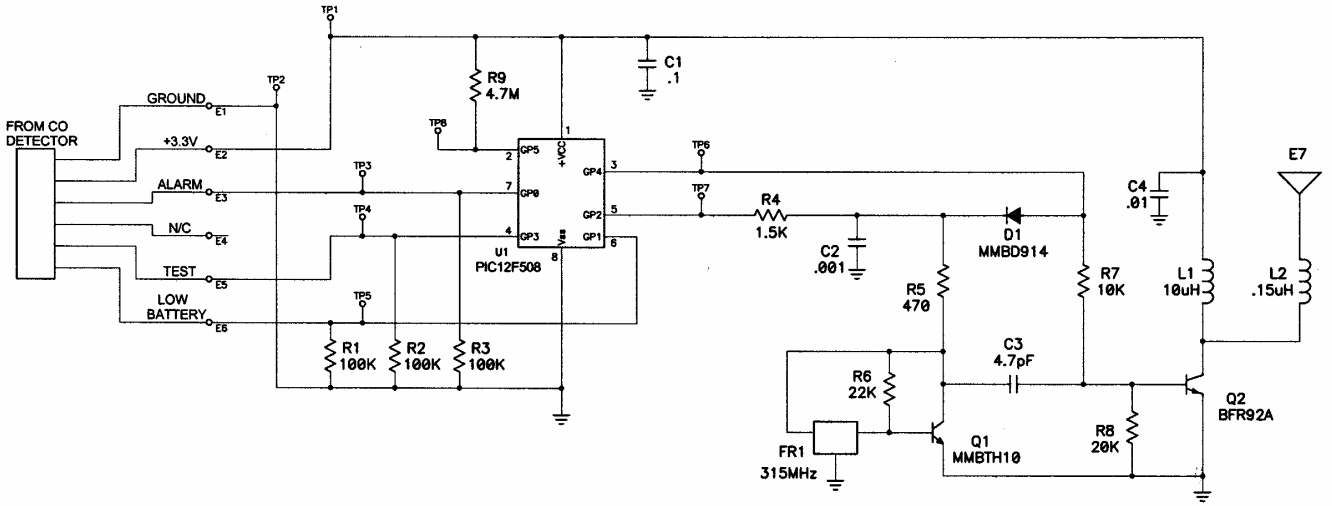


NOTES: (UNLESS OTHERWISE SPECIFIED)

		Linear® CARLSBAD, CA	
CAD OPERATOR: B. NYHUS	DATE 15MAY06	TITLE: BLOCK DIAGRAM, DXS-80	
CHECKED:	DATE		
APPROVED:	DATE	SIZE: B	DRAWING NO.: 227109 REV.: X1
APPROVED:	DATE	SCALE: NONE	Mon May 15, 2006 SHEET: 1 OF 1


3.3 VDC
POWER
ALARM
TEST PB
LOW
BATTERY
1
1
1
PIC 12F508
MICROPROCESSOR
P.A. BIAS
(TX ENABLE)
1
1
315 MHZ SAW
OSCILLATOR
1
RF AMPLIFIER
TX ANTENNA
Title
DXS-80, BLOCK DIAGRAM, RF TRANSMITTER
Size
A
Document Number
DXS-80 RF TX
Rev
X1
Date:
Friday, June 09, 2006
Sheet
1
of
1
5
4
3
2
1

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
X1	ENGINEERING RELEASE		



3. ALL RESISTOR VALUES ARE IN OHMS.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS.
1. THIS SCHEMATIC TO BE USED IN CONJUNCTION WITH APPROPRIATE ASSEMBLY DRAWING AND PARTS LIST.

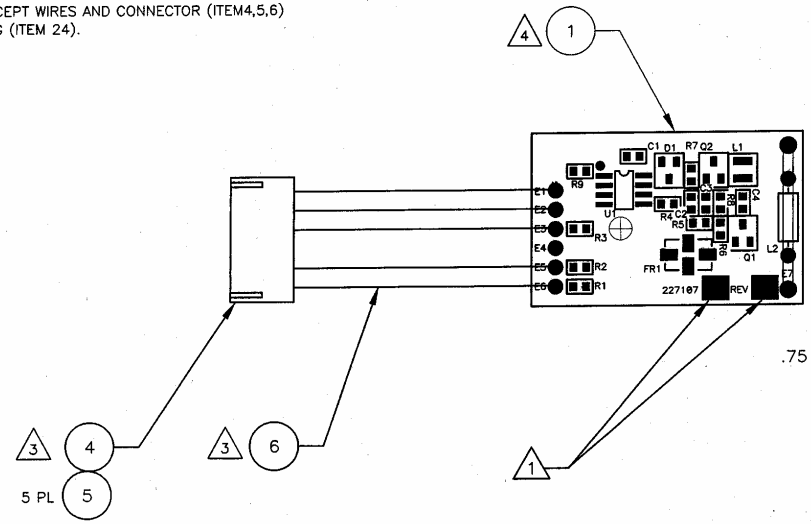
NOTES: (UNLESS OTHERWISE SPECIFIED)

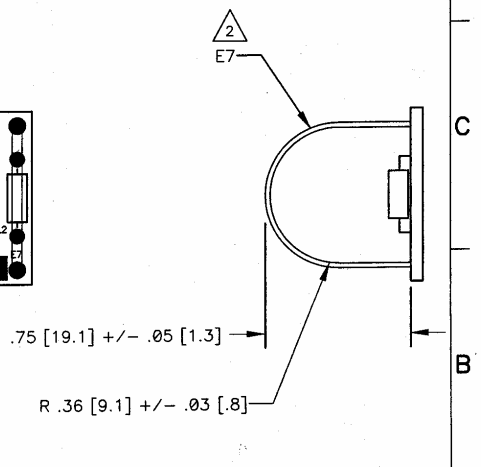
		Linear 2055 CORTE DEL NOGAL * CARLSBAD, CA 92009
CAD OPERATOR: B. NYHUS	DATE 17NOV05	TITLE: SCHEMATIC, DXS-80
CHECKED:	DATE	
APPROVED:	DATE	SIZE: B / DRAWING NO.: 227110 / REV.: X1
APPROVED:	DATE	SCALE: NONE / Tue May 23, 2006 / SHEET: 1 OF 1

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
X1	ENGINEERING RELEASE		
X2	Moved mounting hole		

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. MARK ASSEMBLY DASH NUMBER AND REVISION LETTER USING .12 [3.0] HIGH CHARACTERS, PERMANENT INK, CONTRASTING COLOR, APPROXIMATELY WHERE SHOWN.
2. BEND ANTENNA WIRE E7 AND SOLDER TO PCB AS SHOWN.
3. NOTE CONNECTOR POLARITY, TABS NEARSIDE. CUT WIRE (ITEM 6) INTO 5 EQUAL LENGTHS.
4. COAT ENTIRE ASSEMBLY EXCEPT WIRES AND CONNECTOR (ITEM4,5,6) WITH CONFORMAL COATINNG (ITEM 24).





SEE SEPARATE PARTS LIST

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE INCHES [MM]: TOLERANCES: DECIMALS .XX+/-.02 [.5] .XXX+/-.005 [.13] ANGLES: +/-.5 DEG ROUNDNESS:+/-.005 [.13] FLATNESS:+/-.005 [.13] CONCENTRICITY:+/-.005 [.13]	PROJECT:	Linear 2055 CORTE DEL NOGAL • CARLSBAD, CA 92009	
MATERIAL:	CAD OPERATOR: A.FROST DATE 12/7/05	TITLE: ASSY, PCB, DXS-80	
FINISH:	CHECKED: DATE		
	APPROVED: DATE	SIZE: B DRAWING NO.: 227107 REV.: X2	
	APPROVED: DATE	SCALE: NONE DO NOT SCALE DRAWING SHEET: 1 OF 1	

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EFFECTIVITY DATE: ALL S I N G L E L E V E L B I L L S O F

PARENT PART: SST00116 F/G DXS-80,CO DETECTOR W/XMTR UM
ERC: # SRCE CODE: P TYPE: * ABC

ITEM NO	COMPONENT PART NUMBER/ UM PART DESCRIPTION-REMARKS	ERC	PRODUCT CODE	COMM CODE	S T S A P C Y P B L	EXTENDED QTY PER
0001	227105-01	#	NP	99	P * P * P	1
	EA ASSY,MECH,DXS-80					
0002	227112	#	NP	CE	P * P * P	1
	EA INSTR,INSTL,DXS-80					
0003	227113	#	NP	CE	P * P * P	1
	EA LABEL,PACKING BOX,DXS-80					
0004	207488	B	PPC99	CG	P 1 P * P	2
	EA ANCHOR,6-8X7/8",PLSTC					
0005	103616	B	PPC99	CG	P 1 P C P	2
	EA SCR,TPG,TF,6X3/4,FLH,PH,STL/ZINC					
0006	227365	#	NP	DC	P * P * P	1
	EA PIN,LOCKING,DXS-80					
0990	227104	#	NP	DC	P * P * P	0
	EA F/G DXS-80			REFERENCE ONLY		
0991	227108	#	NP	DC	P * P * P	0
	EA SPECS,DXS-80			REFERENCE ONLY		
0992	227109	#	NP	DC	P * P * P	0
	EA BLOCK DIAGRAM,DXS-80			REFERENCE ONLY		
0993	711460	#	NP	CE	P * P * P	0
	EA LABEL,UPC,SINGLE BOX,DXS-80			REFERENCE ONLY		

NOTES:

END OF REPORT

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EFFECTIVITY DATE: ALL S I N G L E L E V E L B I L L S O F

PARENT PART: 227105-01 ASSY,MECH,DXS-80 UM
ERC: # SRCE CODE: P TYPE: * ABC

ITEM NO	COMPONENT PART NUMBER/ UM PART DESCRIPTION-REMARKS	ERC	PRODUCT CODE	COMM CODE	S C	T Y	S P	A B	P L	EXTENDED QTY PER
0001	227107-01	#	NP	99	P	*	P	*	P	1
	EA ASSY,PCB,DXS-80									
0002	227362	#	NP	DC	P	*	P	*	P	1
	EA COVER,FRONT,DXS-80									
0003	227363	#	NP	DC	P	*	P	*	P	1
	EA BASE,CO DETECTOR,DXS-80									
0004	227364	#	NP	DC	P	*	P	*	P	1
	EA MOUNTING RING,DXS-80									
0005	205082	B	RADMR1MSC	AH	P	1	P	C	P	1
	EA BATT,9V,ALKALINE									
0006	227280	#	NP	CE	P	*	P	*	P	1
	EA LABEL,MODEL/OPERATION,DXS-80									
0007	227281	#	NP	CE	P	*	P	*	P	2
	EA LABEL,WARNING,CARBON MONOXIDE									
0008	227350	#	NP	CE	P	*	P	*	P	1
	EA LABEL,UL,MARK,DXS-80									
0990	227105	#	NP	DC	P	*	P	*	P	0
	EA ASSY,MECH,DXS-80			REFERENCE ONLY						
0991	227110	#	NP	DC	P	*	P	*	P	0
	EA SCHEM,DXS-80			REFERENCE ONLY						
0992	227111	#	NP	DC	P	*	P	*	P	0
	EA TEST PROC,DXS-80			REFERENCE ONLY						
0993	227335	#	NP	DC	P	*	P	*	P	0
	EA DIE-CUT,LABEL,CO OPERATION			REFERENCE ONLY						

NOTES:

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EFFECTIVITY DATE: ALL S I N G L E L E V E L B I L L S O F

PARENT PART: 227107-01 ASSY,PCB,DXS-80 UM
ERC: # SRCE CODE: P TYPE: * ABC

ITEM NO	COMPONENT PART NUMBER/ UM PART DESCRIPTION-REMARKS	ERC	PRODUCT CODE	COMM CODE	S C	T Y	S P	A B	P L	EXTENDED QTY PER
0001	227106	#	NP	DB	P	*	P	*	P	1
	EA PCB,DXS-80									
0002	227115-01	#	NP	99	P	*	P	*	P	1
	EA ASSY,UP,DXS-80		U1							
0003	212828	C	PPC99	EV	P	1	P	C	P	1
	EA RSONATR,315MHZ,RO,1 PORT,SAW,SM-2		FR1							
0004	225488	A	NP	BC	P	*	P	*	P	1
	EA CONN,6POS,FEMALE,PLZD,.1SP									
0005	219170	A	PPCNP	FJ	P	1	P	*	P	5
	EA TERM,CRIMP,FEMALE,22-28AWG,TIN									
0006	209053	A	PPC99	ES	P	1	P	*	P	0.710000
	FT WIRE,24,GRY,STR,BULK,UL1007		E1-3,5,6							
0008	203687	B	PPC99	EN	P	1	P	C	P	1
	EA XSTR,NPN,MMBTH10,SOT-23		Q1							
0009	219134	A	PPCNP	EN	P	1	P	*	P	1
	EA XSTR,BFR92A,SOT-23		Q2							
0010	205011-001	E	PPC99	BF	P	1	P	C	P	1
	EA DIODE,MMBD914,SWITCH,SOT-23		D1							
0011	109295-103	D	PPC99	BR	P	1	P	C	P	1
	EA INDCTR,CER,10UH,FERR,1008LS,10%,SMD		L1							
0012	213017	B	PPC99	BP	P	1	P	C	P	1
	EA INDCTR,.15UH,ENCAP,24AWG,10%		L2							
0013	213383-104	A	PPCNP	DQ	P	1	P	*	P	3
	EA RES,CHIP,1/16W,100K,0603,5%		R1-3							
0014	213383-152	A	PPCNP	DQ	P	1	P	*	P	1
	EA RES,CHIP,1/16W,1.5K,0603,5%		R4							
0015	213383-471	A	PPCNP	DQ	P	1	P	*	P	1
	EA RES,CHIP,1/16W,470,0603,5%		R5							
0016	213383-223	A	PPCNP	DQ	P	1	P	*	P	1
	EA RES,CHIP,1/16W,22K,0603,5%		R6							
0017	213383-103	A	PPCNP	DQ	P	1	P	*	P	1
	EA RES,CHIP,1/16W,10K,0603,5%		R7							
0018	213383-203	A	PPCNP	DQ	P	1	P	*	P	1
	EA RES,CHIP,1/16W,20K,0603,5%		R8							
0019	213383-475	A	PPCNP	DQ	P	1	P	*	P	1
	EA RES,CHIP,1/16W,4.7M,0603,5%		R9							
0020	213419	E	PPCNP	AO	P	5	P	*	P	1
	EA CAP,CER,C,16V104P,X7R,10%,0603		C1							
0021	213391	C	PPCNP	AO	P	1	P	C	P	1
	EA CAP,CER,C,50V102P,X7R,10%,0603		C2							
0022	213393	D	PPCNP	AO	P	1	P	*	P	1
	EA CAP,CER,C,50V4R7P,NPO,.25PF,0603		C3							
0023	213390	C	PPCNP	AO	P	1	P	*	P	1
	EA CAP,CER,C,50V103P,X7R,10%,0603		C4							
0024	226861	A	NP	DD	P	*	P	*	P	0
	GL COATING,CONFORMAL,ACRYLIC		FLOOR STOCK							
0990	227107	#	NP	DC	P	*	P	*	P	0
	EA ASSY,PCB,DXS-80		REFERENCE ONLY							

PRINTED 01-Jun-06 10:19 AM LINEAR LLC

EFFECTIVITY DATE: ALL S I N G L E L E V E L B I L L S O F

PARENT PART: 227107-01 ASSY,PCB,DXS-80 UM
ERC: # SRCE CODE: P TYPE: * ABC

ITEM NO	COMPONENT PART NUMBER/ UM PART DESCRIPTION-REMARKS	ERC	PRODUCT CODE	COMM CODE	S C	T Y	S P	A B	P L	EXTENDED QTY PER
0991	227110	#	NP	DC	P	*	P	*	P	0
	EA SCHEM,DXS-80			REFERENCE ONLY						
0992	227111	#	NP	DC	P	*	P	*	P	0
	EA TEST PROC,DXS-80			REFERENCE ONLY						

NOTES:

END OF REPORT

TESTING INSTRUMENTATION AND EQUIPMENT LIST

SPECTRUM ANALYZERS:

H.P.	HP8562A	1KHz to 22GHz		
	S/N 2913A03742		Calibrated	04/06
			Due	04/07

ANTENNAS:

(2)	Ailtech DM105A T1		20-200 MHz		Tuned Dipole
	S/N 93412-105 and 93412-114		Calibrated 3/06	Due:	3/07
(2)	Ailtech DM105A T2		140-400 MHz	Tuned Dipole	
	S/N 93413-113 and 93413-117		Calibrated 3/06	Due:	3/07
(2)	Ailtech DM105A T3		400-1000 MHz	Tuned Dipole	
	S/N 93413-105 and 93414-111		Calibrated 3/06	Due	3/07
(2)	AH Systems	SAS-200/511	1-12.4 GHz		Log Periodic
	S/N 118 and 124, P/Ns 2069				
(1)	AH Systems	SAS-200/540	20-330 MHz		Biconical
	S/N 367	P/N 2052			

INSTRUMENTATION:

H.P.	HP8656B RF Generator	100 KHz - 990 MHz	
	S/N A4229590	Calibrated	3/06
		Due	3/07
Solar Electronics Line Impedance Stabilization Network, Type			
	8012-50-R-24-BNC	Calibrated:	3/06
	S/N 8379585	Due:	3/07
HP 8447D	Broadband preamplifier, 0.1-1300 MHz		
	S/N 2443A03660	Calibrated: 3/06	
		Due: 3/07	
Mini-Circuits	ZFL-2000 broadband preamplifier, 10-3000 MHz		
	S/N Lin 001	Calibrated: 3/06	
		Due: 3/07	

ACCESSORIES:

(2) Ailtech Rulers calibrated in MHz
4 Meter ABS Antenna Mast and Trolley
Tektronix C5C Scope Camera
Eighty Centimeter Tall, Motorized Wooden Turntable
BNC to BNC Cables - as-required

(2) 25' RG-214/U Low-loss Coaxial Cable
S/N- LIN001 & LIN002 Calibrated: 3/06
Due: 3/07

(2) 3' RG-55/U Low-loss Coaxial Cable, calibarated as part of the preamplifiers. Automatically taken into account when used with the above itemized range preamplifiers.

MEASUREMENT OF RADIO FREQUENCY EMISSION OF CONTROL AND SECURITY ALARM DEVICES FCC RULES PART 15, C63.4-2003 TEST PROCEDURE

I. INTRODUCTION

As part of a continuing series of quality control tests to ensure compliance with all applicable Rules and Regulations, this enclosure details the test procedures for certain radio control devices. Testing was performed at a test site located on the property of Linear LLC, 1950 Camino Vida Roble, Suite 150, Carlsbad, California 92008-6517.

II. MEASUREMENT FACILITY DESCRIPTION

The test facility is a specially prepared area adequately combining the desirability of an interference free location with the convenience of nearby 120 volt power outlets, thus completely eliminating the incidence of inverter hash, so often a problem with field measurements.

III. DESCRIPTION OF SUPPORTING STRUCTURES

For Measuring Equipment - The antenna is supported on a trolley that can be raised and lowered on a mast by means of remote control to any level between 1 meter and 4 meters above the ground. For measurements at 3 meters, an antenna height (center of dipole) of about 1 meter generally yields the greatest field strength. For measurements at 1 meter, an antenna height equal to the device under test generally yields the greatest field strength. Usually, horizontal polarization yields the greatest field strength for both 1 and 3 meter measurements.

For Equipment Under Test (EUT): The equipment to be tested is supported by a wooden turntable at a height of eighty centimeters. A two axis swivel at the top of the turntable permits the unit under test to be manually oriented in the position of maximum received signal strength. The turntable can be rotated by remote control.

Test Configuration - All transmitters were located eighty centimeters above ground, at a distance of three meters from the antenna. They were each oriented for maximum radiation by rotating the turntable. The antenna was then moved vertically along the mast for optimum reception in both horizontal and vertical planes. Where no emissions were found, the antenna was also moved to one meter distance to improve system sensitivity.

From 1 GHz to 3 GHz, a Mini-Circuits ZFL-2000 broadband RF preamplifier is used instead of the HP 8447D. In many cases, the antenna is moved in to a distance of 1 meter to enhance test range sensitivity after the 3-meter data is observed. A theoretical 9.54dB improvement is realized. Please see Excel data spreadsheet for details. For a particular device and frequency, the EUT to antenna distance is specified in the Report of Measurements.

Correction of Measured Values - The spectrum analyzer calibration is in units of dBm absolute. Published antenna factor, measured cable loss and preamplifier gain are in units of dB. All equipment is referenced to a 50-ohm characteristic impedance; therefore, any impedance terms will factor out of any calculations. Also, balun loss is included in the antenna factor, so this term will not appear in any calculation.

To obtain field strength, the reference (50 ohm system) 1 uV = 0 dBuV = -107 dBm is used.

For a given frequency: antenna factor, cable loss, preamplifier gain (if used) and a 9.54 dB gain factor (3 meters to 1 meter field strength conversion) when required are factored into the spectrum analyzer reading, resulting in a field strength in units of dBm.

Field strength reading (dBm) + 107 dB = dBuV, using 0 dBuV = 1 uV/meter at a specified distance as reference.

All of the equipment was calibrated to NBS-traceable factory specifications prior to the date of measurement.

IV **MEASUREMENT PROCEDURE**

Transmitters

1. Set the DIP-switch rockers of the transmitter (if needed) to all ON, jam the button in the ON position, and place the transmitter on the test stand.
2. Tune the antenna (if required).
3. Tune the spectrum analyzer.
4. Adjust the antenna height and polarization for peak field strength.
5. Rotate the turntable to orient the transmitter for the highest reading.
6. Record the observed peak emission.
7. Record the screen image (if required).

Spectrum Analyzer Control Settings:

Tuning:	As required
Bandwidth	100 KHz for Field Strength,
Scan Width:	100 KHz/div (may be different when tuning or adjusting display for photographs)
Input Attenuator:	10 dB
Scan Time:	50 mSec. sweep
Reference Level:	0 dBm
Display Mode:	Log 10 dB/division
Video Filter:	OFF
Scan Mode:	Internal
Scan Trigger:	Auto

Receivers

1. Place receiver on test stand, apply power.

2. Tune the antenna to the operating frequency to be measured.

3. Tune the spectrum analyzer.

4. Cohere the Receiver (Superregenerative Receivers Only)

   Tune the RF Generator to the center frequency of the superregenerative receiver under test. Apply a signal level of -20 dBm at a distance of approximately two meters. Use an Ailtech antenna of the correct tuned frequency to radiate the cohering signal. Vary the signal frequency to insure that the maximum spurious emissions are recorded.

   While radiating a signal, monitor the output levels at the analyzer looking for the largest peak from the unintentional radiator's spurious output.

   Record the highest levels near the center frequency but be careful not to record the signal generator as an emission from the receiver.

5. Record the Emission Levels

   Retune the antenna to the exact frequency of measurement. Adjust the antenna height and polarization for peak field strength. Rotate the turntable to orient the receiver for maximum emissions and record the frequency and level on the Report of Measurements.

   Record an image of spectrum analyzer display for the Report of Measurements, if required.

Spectrum Analyzer Control Settings:

Tuning:	As required
Bandwidth:	100 KHz
Scan Width:	100 KHz/div (may be different when tuning or adjusting display for photographs)
Input Attenuator:	10 dB
Scan Time:	50 msec sweep
IF Mode:	Log 10 dB/division
Reference Level:	-10 dBm
Video Filter:	OFF
Scan Mode:	Internal
Scan Trigger:	Auto

REPORT OF MEASUREMENTS

LINEAR LLC
FCC ID: EF4 SST00116
Model: DXS-80 Carbon Monoxide Alarm Transmitter

The enclosed documents reflect the requirements contained generally within the code of Federal Regulations, Title 47, Parts 2 and 15 as most recently published October 1, 2005 and all other applicable revisions made by the Commission since that time.

The specific rule sections for which the enclosed documents demonstrate compliance or rely upon to demonstrate compliance with the Commission's application and technical standards are as follows:

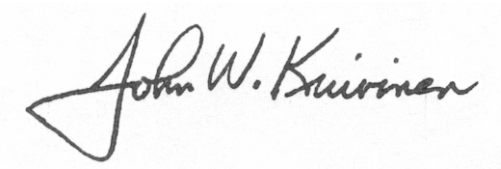
15.201-15.207, 15.231, Subpart C, Intentional Radiators.

Test Procedure C63.4-2003, Section 13, Measurement of Intentional Radiators was used for the testing of this device.

In accord with Section 2.948 of the Commission's Rules, a Test Site submittal is on file with the Commission and a Letter of Acceptance dated March 17, 2006 (Registration Number 90767) is a portion of the Commission's records.

A test site submittal is on file with Industry Canada. The Industry Canada file number is 1078. Dated April, 2006.

All of the information contained within this documentation is true, correct, and complete to the best of my knowledge.



_____ _ July 18, 2006 _
John W. Kuivinen, P.E. Date
Regulatory Compliance Engineer

DURATION OF RF TRANSMISSIONS

DXS-80

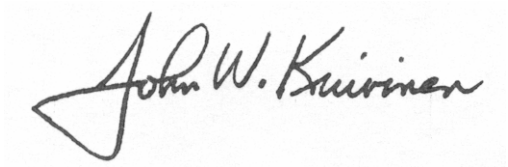
CARBON MONOXIDE ALARM TRANSMITTER

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 pendancy 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.

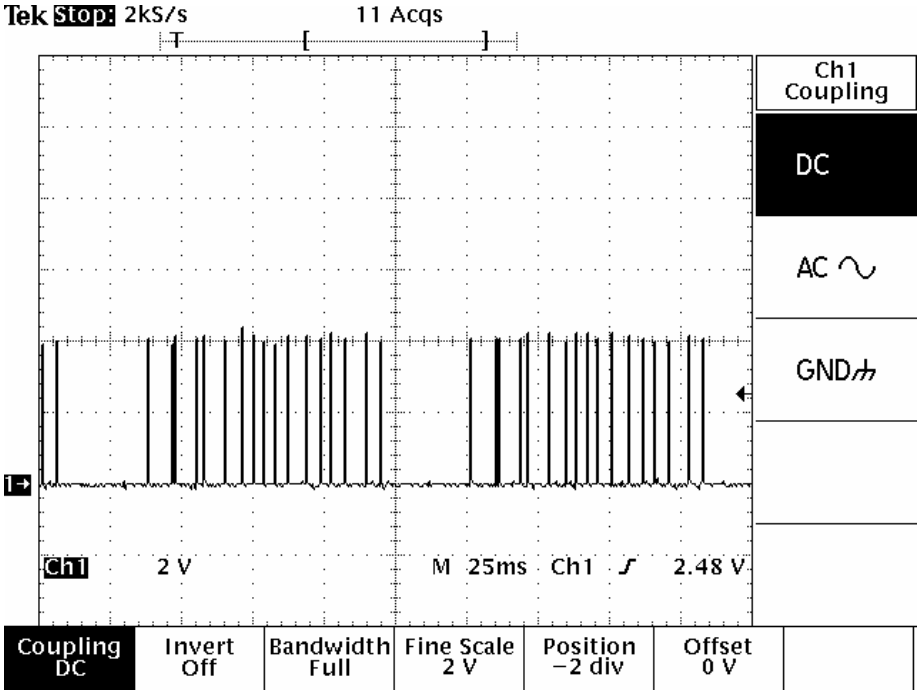
Signed:



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

Transmitter Duty Cycle Calculations and Time Domain Information

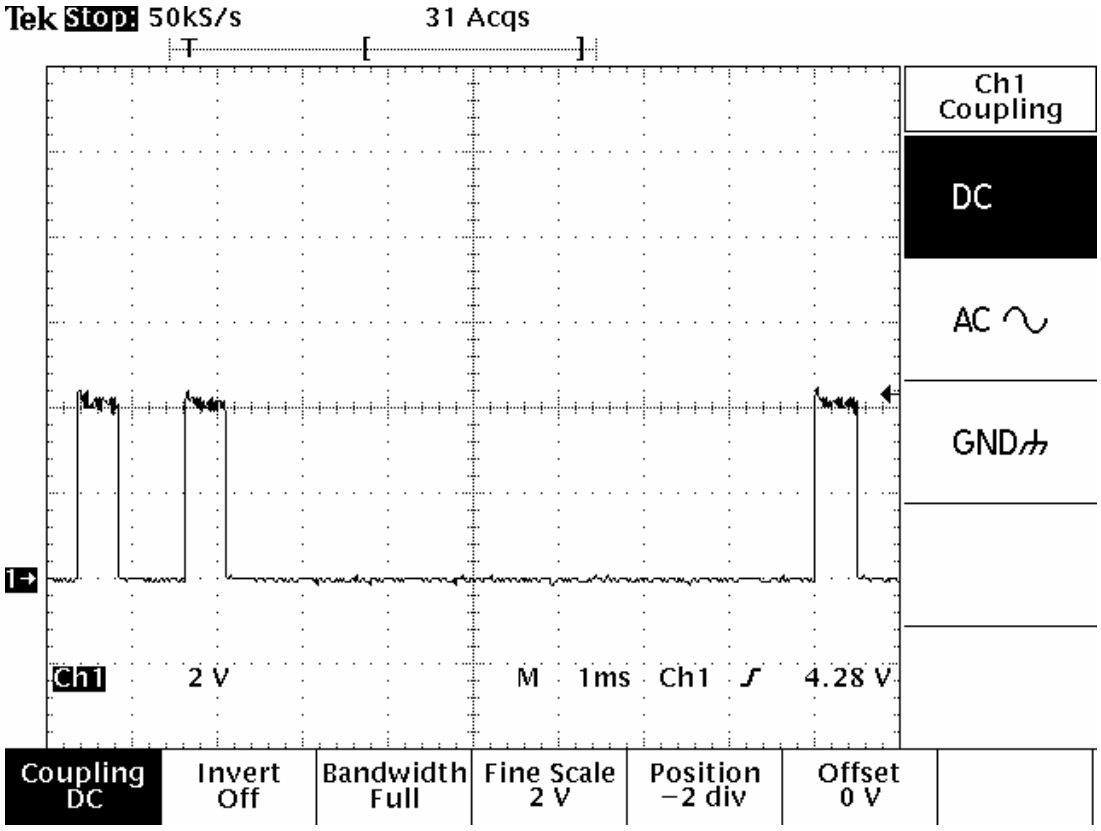
DXS Data Format



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.

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

20 log (8.5E-2) = -21.4 dB 20 dB Duty Cycle Ratio (Per FCC Rules)

REPORT OF MEASUREMENTS

Applications for control,security alarm,door opener or remote switch

Description: 315.0 MHz transmitter DX format supervised

DATE: June 6, 2006

ITEM TESTED: Alarm Transmitter
MANUFACTURER: Linear Corporation
TRADE NAME:
PRODUCT ID: EF4 SST00116

DISTANCE AT WHICH MEASURED: 3 meters, DUT 0.8 meters above ground
REFERENCE: 15.231
MEASUREMENT PROCEDURE: C63.4-2001

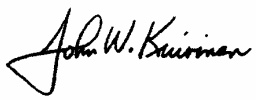
RADIATION

A	B	C		D		E		F	G	H	I	J	K	L	M	N	P	Q
Tuned Frequency MHz	Emission Frequency MHz	Ambient Level dBm		FCC Limit dBm		Meter Reading dBm	UUT & Ant. Pos.**	Antenna Factor dB	Cable Loss dB	Amp Gain dB	Dist Fac dB	Duty Cycle dB	Emission Data dBm/mtr	dBuV/mtr	uV/M	FCC Limit uV/M	dB:FCC	FREQ. MHz
315.00	315.00	-98.40		-3.98		-4.3	H H	18.6	1.2	27.2	0.00	20.0	-31.70	75.30	5821.03	6042.00	-0.32	315.00
	630.00	-89.80		-32.58		-43.7	H H	26.0	1.7	26.5	0.00	20.0	-62.50	44.50	167.88	604.00	-11.12	630.00
	945.00	-85.90		-36.48		-54.4	H H	29.4	2.2	26.5	0.00	20.0	-69.30	37.70	76.74	604.00	-17.92	945.00
	1260.00	-82.00		-40.38		-54.6	H H	26.8	2.6	20.4	0.00	20.0	-65.60	41.40	117.49	604.00	-14.22	1260.00
	1575.00	-79.10		-43.28		-65.8	H H	28.7	3.0	19.8	0.00	20.0	-73.90	33.10	45.19	604.00	-22.52	1575.00
	1890.00	-77.40		-44.98		-64.6	H H	30.0	3.3	19.7	0.00	20.0	-71.00	36.00	63.10	604.00	-19.62	1890.00
	2205.00	-85.14	*	-37.92	*	#N/A	H H	30.8	3.6	18.3	9.54	20.0	#N/A	#N/A	#N/A	605.00	#N/A	2205.00
	2520.00	-84.04	*	-43.14	*	#N/A	H H	31.7	3.8	14.2	9.54	20.0	#N/A	#N/A	#N/A	604.00	#N/A	2520.00
	2835.00	-82.94	*	-46.94	*	#N/A	H H	32.4	4.2	11.5	9.54	20.0	#N/A	#N/A	#N/A	604.00	#N/A	2835.00
	3150.00	-82.04	*	-59.34	*	#N/A	H H	33.1	4.4	0.0	9.54	20.0	#N/A	#N/A	#N/A	604.00	#N/A	3150.00

NOTES:
* 1 meter measurement corrected to 3 meters
** Device (UUT) and antenna position = H (horizontal) or V (Vertical)

The spectrum was searched from 25 to 3500 MHz
No other emissions were observed except those shown on this page.

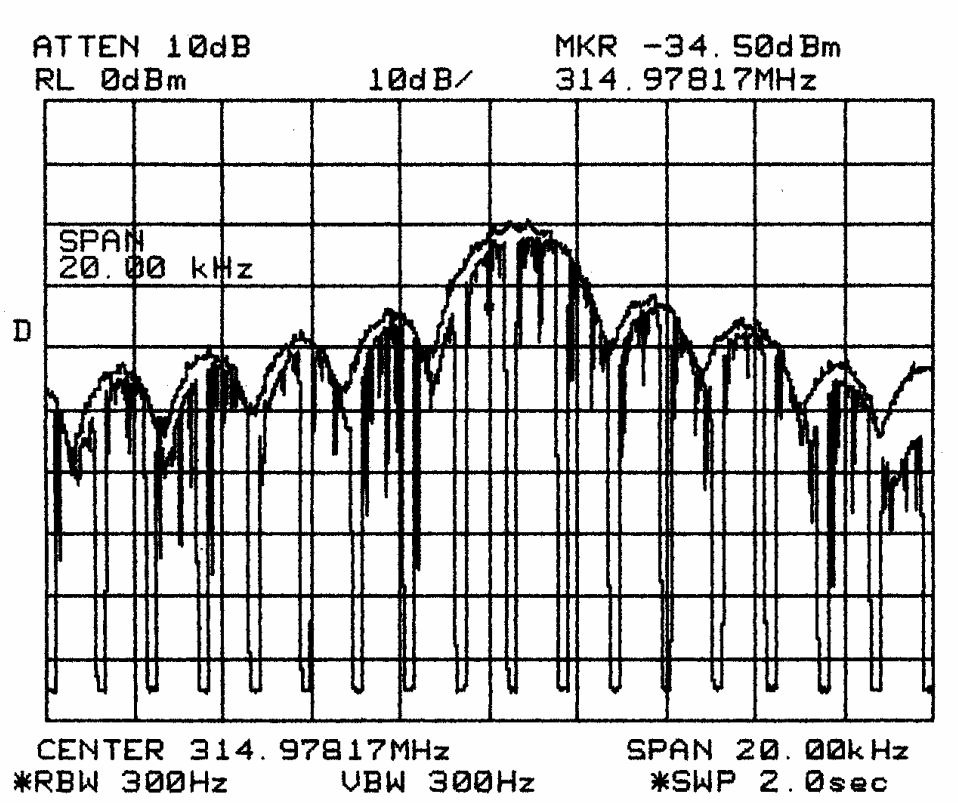
15.207 Conducted Emissions Not Applicable- Battery Powered



June 6, 2006

ENGINEER DATE

FILE NAME: SST116_X1.XLS DISK NAME: FCC DATA



DEVICE: DXS-80 Carbon Monoxide Alarm Transmitter

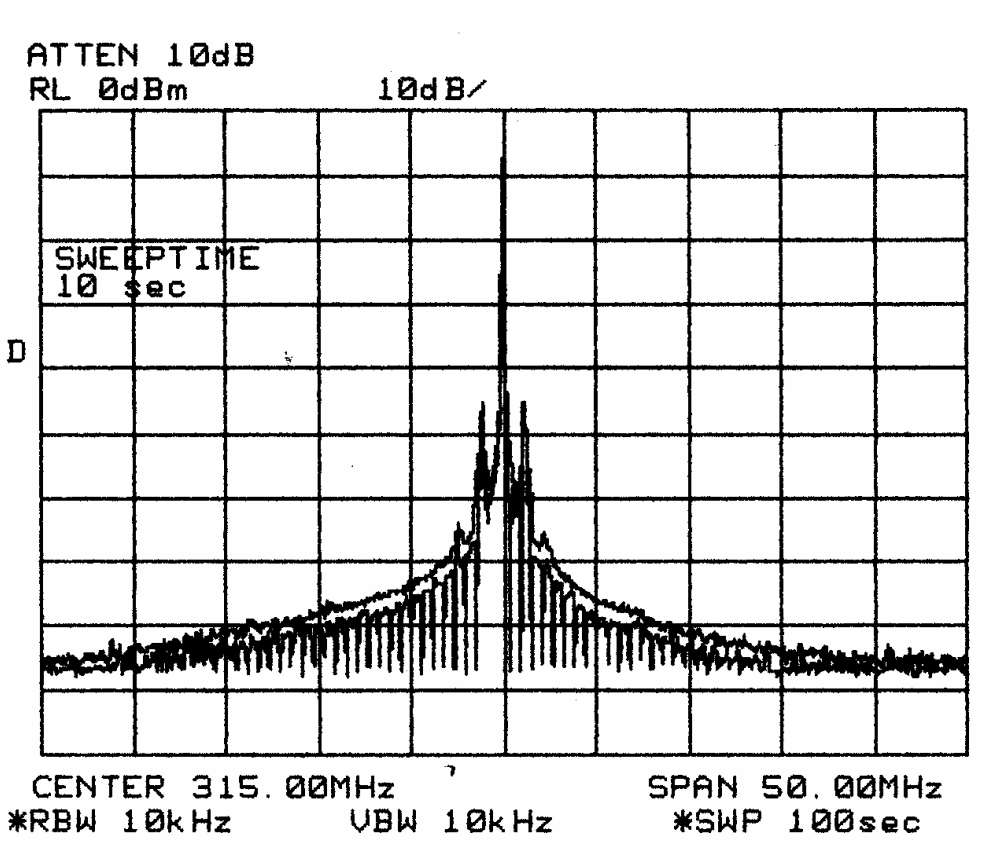
PHOTOGRAPH: Occupied Bandwidth

CONDITIONS: Transmitter Fundamental. A1D Modulation - Pulse Position Modulation. Fixed Duty Cycle. SAW oscillator frequency determining element.

SPECTRUM ANALYZER CONTROL SETTINGS

CENTER FREQUENCY:	315 MHz	INPUT ATTENUATION:	-10 dB
SCAN WIDTH:	2.0 KHz / Div.	PREAMPLIFIER GAIN:	0 dB
SCAN TIME:	0.2 Sec / Div.	LOG REF. LEVEL:	-10 dBm
RF BANDWIDTH:	0.3 KHz		
ANTENNA:	6" Whip Ant. at Analyzer Input	TUNED TO:	N/A
ANTENNA DISTANCE:	0.25 Meters	ANTENNA HEIGHT:	N/A
SYSTEM NOISE FLOOR:	N/A		

NOTES: Per 15.231(c), Occupied Bandwidth (20 dB down) is less than +/- 8 KHz. This is less than 0.010% of the center frequency. FCC Rules, 15.231(c) devices must be less than 0.25% of center frequency. This device therefore complies with 15.231(c).



DEVICE: DXS-80 Carbon Monoxide Alarm Transmitter

PHOTOGRAPH: Transmitter Spurious Emissions +/-25 MHz of the tuned center freq. Peak of RF signal set to top of screen.

CONDITIONS: Transmitter Fundamental. A1D Modulation, SAW tuned frequency.

SPECTRUM ANALYZER CONTROL SETTINGS

CENTER FREQUENCY: 315 MHz INPUT ATTENUATION: -10 dB

SCAN WIDTH: 5.0 MHz/ Div. PREAMPLIFIER GAIN: 0 dB

SCAN TIME: 10 Sec. / Div. LOG REF. LEVEL: -10 dBm

RF BANDWIDTH: 10 KHz

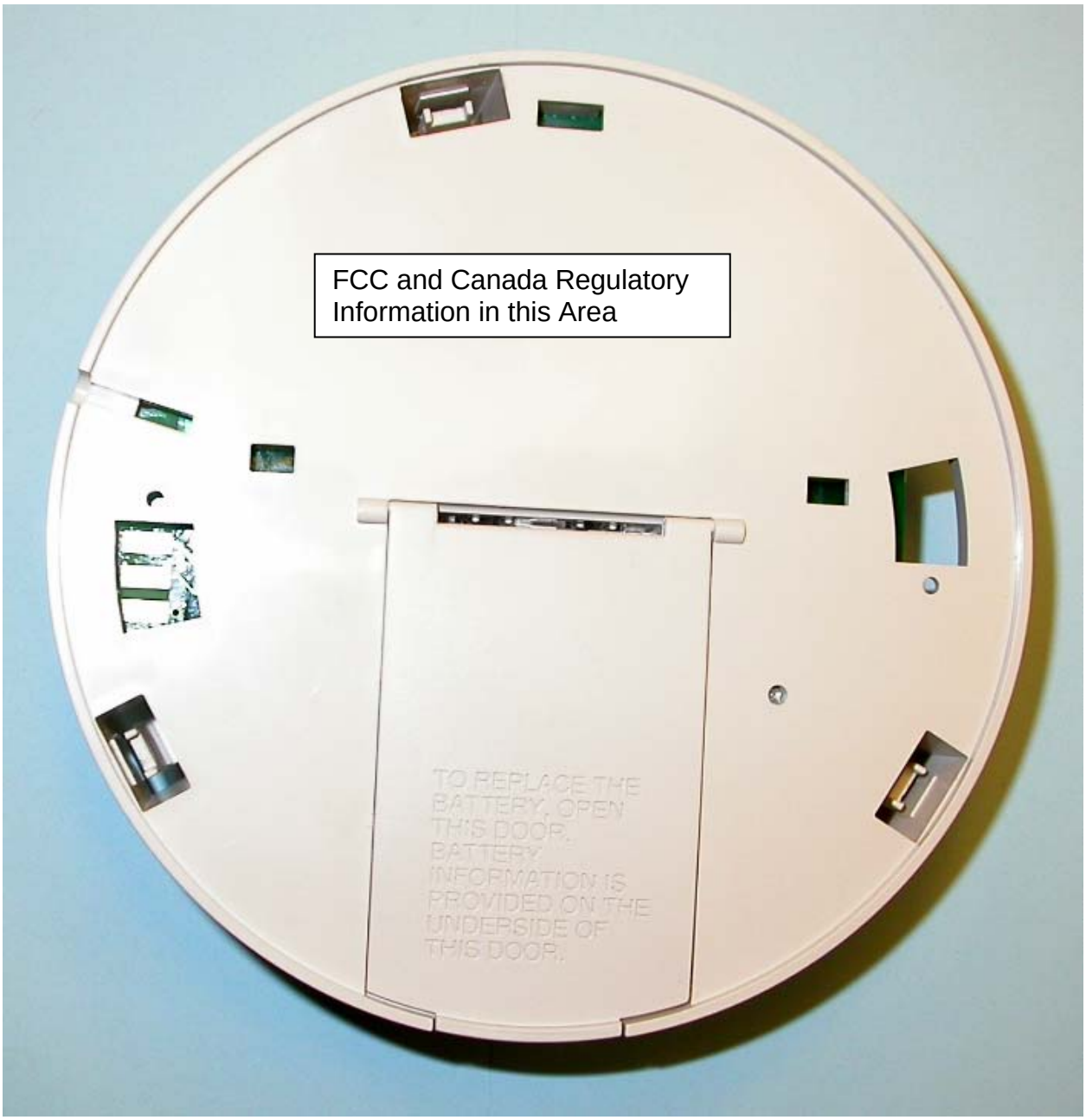
ANTENNA: 6" Whip Antenna on Analyzer Input TUNED TO: N/A

ANTENNA DISTANCE: 0.25 Meters ANTENNA HEIGHT: N/A

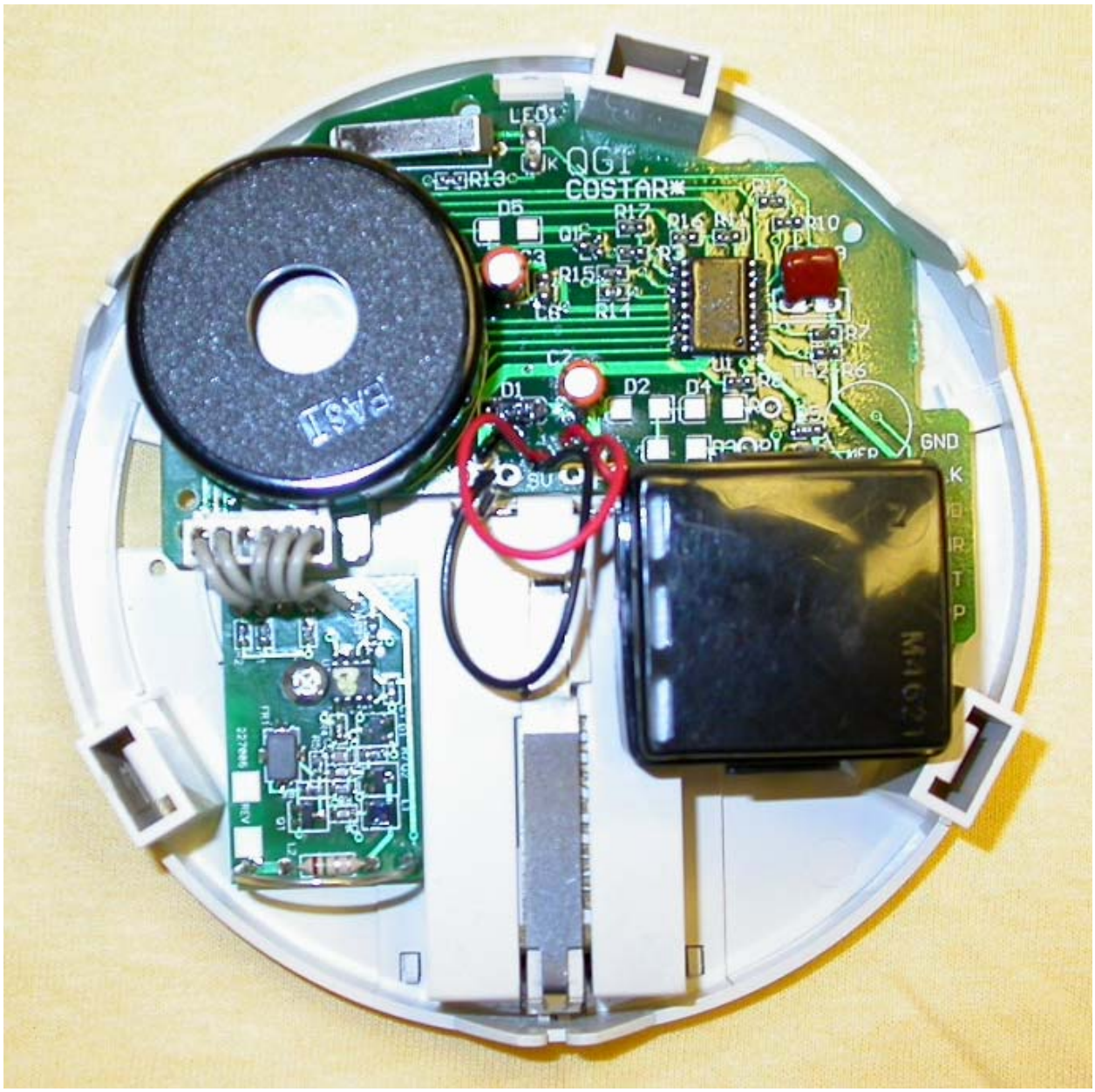
SYSTEM NOISE FLOOR: N/A

No emissions occur outside of the of the rated center freq. except for harmonic spurious signals.

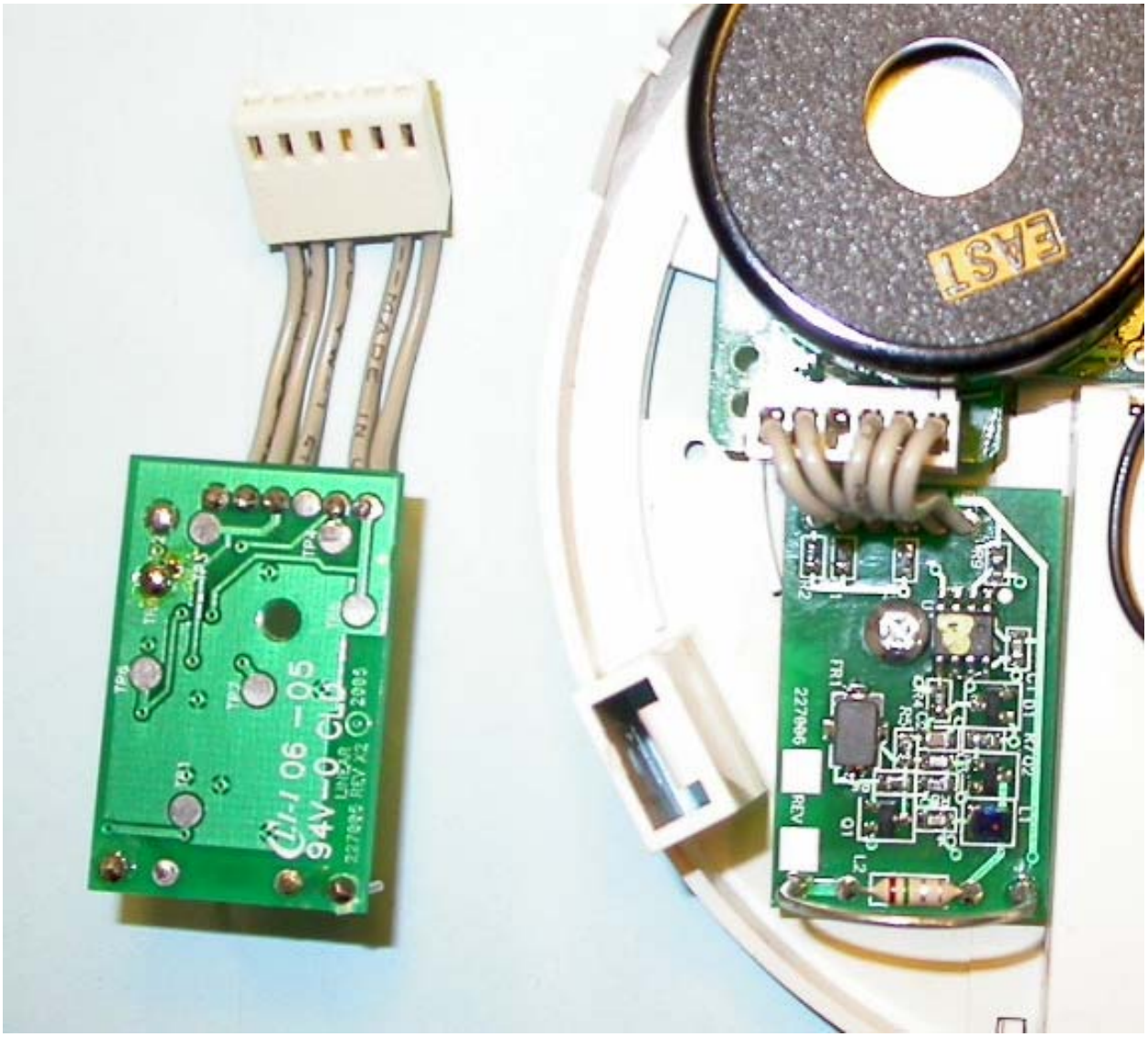
FRONT VIEW, DXS-80
CARBON MONOXIDE
ALARM



REAR VIEW, DXS-80
CARBON MONOXIDE ALARM
FCC / IC LABEL PLACED
APPROX. AS SHOWN



INTERNAL PCB LAYOUT
WITH RF TRANSMITTER
PCB

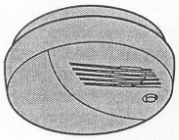


RF TRANSMITTER PCB
FRONT AND BACK VIEWS

PRINTERS INSTRUCTIONS
INSTR,INSTL,DXS-80 - P/N: 227112 X6 - INK: BLACK - MATERIAL: 20 LB. MEAD BOND - SIZE: 8.500" X 11.000" - SCALE: 1-1 - SIDE 1 of 2

DXS-80

WIRELESS CARBON MONOXIDE ALARM



Installation Instructions

SIGNALING

LISTED

Linear.
(760) 438-7000
USA & Canada (800) 421-1587 & (800) 392-9123
Toll Free FAX (800) 468-1340
www.linearcorp.com

PRODUCT DESCRIPTION

The DXS-80 is a carbon monoxide (CO) alarm with a built-in transmitter designed for use with Linear's DXS and DX Format receivers. The detector gives warning to alert against both the acute and chronic effects of CO poisoning. When carbon monoxide is detected, the alarm sounds a loud local alarm. When the local alarm sounds, the built-in transmitter sends a digitally coded wireless signal to its companion receiver immediately and every 20 seconds after until the air has cleared and the detector is restored.

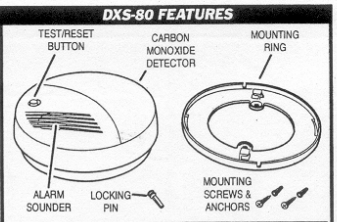
The local alarm can be silenced once by pressing the TEST/RESET button for 3 seconds. The transmitter will continue to send an alarm signal every 20 seconds. After 4 minutes, the alarm will sound again if there is still an unsafe CO concentration level. The reset function can be used only once for each alarm occurance.

The DXS transmitters are precoded at the factory to one of over a million possible unique system codes, so no field coding is required. Receivers must be programmed to the transmitter's code before system testing and operation. Refer to the receiver's instructions for details on programming.

The unit is powered by one 9-volt alkaline battery. The battery supplied with the transmitter and can power the unit for up to one year. If the battery voltage drops below a preset level the alarm will sound a low battery chirp every 45 seconds and a low battery signal will be sent to the receiver (some receivers can report low battery, others cannot).

When the detector reaches the end of its servicable life (after about 6 years) a permanent trouble condition will occur and cannot be reset.

DXS-80 FEATURES



ALARM SIGNALS	
NORMAL OPERATION	RED LIGHT FLASHES EVERY 30 SECONDS
ALARM CONDITION	RED LIGHT ON FOR 2 SECONDS AND OFF FOR 4 SECONDS. FOUR SHORT BEEPS FOR 1 SECOND EVERY 5 SECONDS.
TROUBLE CONDITION	DETECTOR SELF-TESTS EVERY 10 MINUTES. IF A FAULT IS DETECTED, RED LIGHT WILL FLASH TWICE AND DETECTOR WILL BEEP TWICE EVERY 45 SECONDS. THE TROUBLE CONDITION CAN ALSO OCCUR WHEN THE DETECTOR REACHES END-OF-LIFE. **IN THIS CONDITION, THE DETECTOR REQUIRES IMMEDIATE REPLACEMENT.**
LOW BATTERY CONDITION	DETECTOR SOUNDS ONE CHIRP EVERY 45 SECONDS. **REPLACE THE BATTERY WHEN THIS SIGNAL OCCURS.**

SELECT PROPER LOCATION

REFER TO SECTION NUMBER 6 ON THE REAR OF THESE INSTRUCTIONS FOR IMPORTANT MOUNTING DETAILS

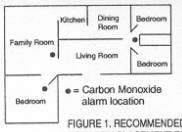


FIGURE 1. RECOMMENDED CO ALARM PLACEMENT FOR SINGLE FLOOR RESIDENCE

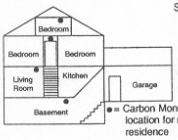
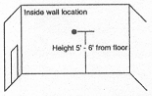


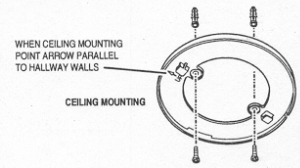
FIGURE 2. RECOMMENDED CO ALARM PLACEMENT FOR MULTI-LEVEL RESIDENCE

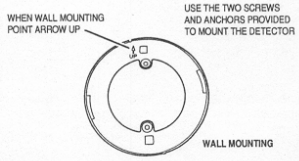
FIGURE 3. RECOMMENDED CO ALARM MOUNTING LOCATION IS 5 TO 6 FEET FROM FLOOR



INSTALL MOUNTING PLATE

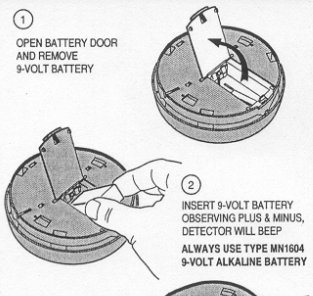
REMOVE MOUNTING PLATE FROM THE DETECTOR BY TWISTING THE DETECTOR IN THE DIRECTION OF THE OFF ARROW ON THE COVER





INSTALL BATTERY

1. OPEN BATTERY DOOR AND REMOVE 9-VOLT BATTERY



2. INSERT 9-VOLT BATTERY OBSERVING PLUS & MINUS, DETECTOR WILL BEEP

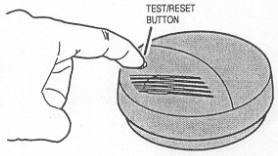
ALWAYS USE TYPE MN1604 9-VOLT ALKALINE BATTERY

3. CLOSE BATTERY DOOR AND SNAP IT SHUT

NOTE: BATTERY DOOR WILL NOT SHUT WITHOUT A BATTERY INSTALLED

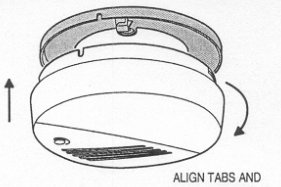
PROGRAM RECEIVER

1. PLACE THE RECEIVER INTO PROGRAMMING MODE (SEE INSTRUCTIONS SPECIFIC TO THE RECEIVER)
2. PRESS AND HOLD THE TEST/RESET BUTTON UNTIL THE DETECTOR BEEPS
3. WHEN THE BEEP STARTS, STOP PRESSING THE TEST/RESET BUTTON. THE BUILT-IN TRANSMITTER WILL SEND A SIGNAL IN 2-3 SECONDS

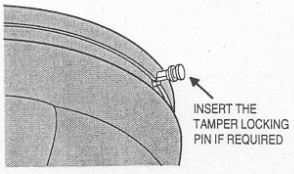


4. THE RECEIVER WILL INDICATE THAT THE SIGNAL WAS ACCEPTED

MOUNT ALARM ON PLATE

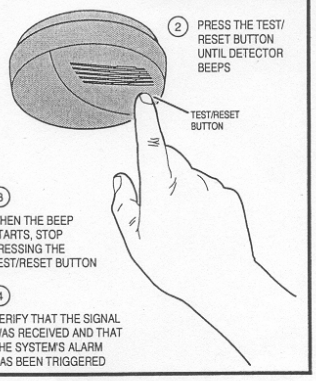


ALIGN TABS AND INSTALL DETECTOR ON MOUNTING RING



TEST ALARM

1. PLACE THE RECEIVER INTO NORMAL OPERATING MODE
2. PRESS THE TEST/RESET BUTTON UNTIL DETECTOR BEEPS



3. WHEN THE BEEP STARTS, STOP PRESSING THE TEST/RESET BUTTON
4. VERIFY THAT THE SIGNAL WAS RECEIVED AND THAT THE SYSTEM'S ALARM HAS BEEN TRIGGERED

PRINTERS INSTRUCTIONS
INSTR,INSTL,DXS-80 - P/N: 227112 X6 - INK: BLACK - MATERIAL: 20 LB. MEAD BOND - SIZE: 8.500" X 11.000" - SCALE: 1-1 - SIDE 2 of 2

If alarm sounds:

1 Operate reset/silence button
2 Call your emergency services fire department or 911
3 Immediately move to fresh air – outdoors or by an open door/window. Then, do a head count to check that all persons are accounted for. Do not reenter the premises nor move away from the open door/window until the emergency services responders have arrived, the premises have been aired out, and your alarm remains in its normal condition.
4 After following steps 1 - 3, if your alarm reactivates within a 24-hour period, repeat steps 1 - 3 and call a qualified technician to investigate for sources of CO from fuel burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection, have the equipment serviced immediately. Note any combustion equipment not inspected by the technician and consult the manufacturers' instructions or contact the manufacturers directly for more information about CO safety and this equipment. Make sure that motor vehicles are not and have not been operating in an attached garage or adjacent to the residence.

⚠ WARNING ⚠
ACTUATION OF YOUR CO ALARM INDICATES THE PRESENCE OF CARBON MONOXIDE (CO), WHICH CAN KILL YOU!

IMPORTANT INFORMATION

1.0 WHAT YOU SHOULD KNOW ABOUT CO

Carbon monoxide (CO) is an insidious poison. It is a colorless, odorless and tasteless gas. It is a cumulative poison. Even low levels of CO have been shown to cause brain and other vital organ damage in unborn infants with no effect on the mother.

The following symptoms are related to CARBON MONOXIDE POISONING and should be discussed with ALL members of the household:

- **MILD** EXPOSURE: Slight headache, nausea, vomiting, fatigue (often described as "flu-like" symptoms)
- **MEDIUM** EXPOSURE Severe throbbing headache, drowsiness, confusion, fast heart rate
- **EXTREME** EXPOSURE Unconsciousness, convulsions, cardiorespiratory failure, death

Many cases of reported CARBON MONOXIDE POISONING indicate that while victims are aware they are not well, they become so disoriented they are unable to save themselves by either exiting the building or calling for assistance. Also, young children and household pets may be the first affected.

Your CO alarm is designed to detect the toxic CO fumes that result from incomplete combustion, such as those emitted from appliances, furnaces, fireplaces and auto exhaust.

A CO Alarm is NOT A SUBSTITUTE for other combustible gas, fire or smoke alarms. This carbon monoxide alarm is designed to detect carbon monoxide gas from ANY source of combustion.

☞ ***CAUTION:*** *This alarm will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide gas may be present in other areas.*

★ ***WARNING:*** *This product is intended for use in ordinary indoor locations of family living units. It is not designed to measure compliance with Occupational Safety and Health Administration (OSHA) commercial or industrial standards. Individuals with medical problems may consider using warning devices which provide audible and visual signals for carbon monoxide concentrations under 30 ppm.*

2.0 IMPORTANT CONSIDERATIONS

- **2.1** The DXS-80 has been designed to operate for six years with regular maintenance and battery replacement.
- **2.2** Never disconnect the battery to silence an alarm. The alarm will automatically sense when the level of CO in the air falls below the danger level. You should stay outside the residence in fresh air until the alarm is silenced. When the alarm sounds, do not stand too close to the alarm. The sound produced by the alarm is loud because it is designed to awaken a person in an emergency. Prolonged exposure to the alarm at a close distance may be harmful to your hearing.

☞ ***NOTE:*** *Manufacturer strongly recommends replacement of alarm six years after date of purchase. Under no circumstances should the alarm be used (7) years after the date of purchase.*

3.0 DEVELOPING YOUR OWN CO SAFETY PLAN

This CO alarm can quickly alert you to the presence of CO, it cannot prevent toxic CO emissions. Please note that there are hazards against which CO detection may not be effective, such as gas leaks or explosions. The ultimate responsibility for protection against toxic CO fumes rests solely on you.

Installing CO detectors is just the first step in protecting your family from toxic CO poisoning. We also suggest that you create an effective, comprehensive safety program as outlined below.

- **3.1** Install CO detectors properly following the instructions in this manual.
- **3.2** Develop a family escape plan and practice it with your entire family, especially small children.

 227112 X6

✓ Draw a floor plan of your home and find two ways to exit from each room. There should be one way to get out of each bedroom without opening the door.
✓ Make sure that all occupants know what the CO alarm signal means and how they must exit the residence by themselves if necessary.
✓ Decide on a meeting place a safe distance from your house and make sure all occupants understand where they should go and wait if there is a dangerous CO condition.
✓ Conduct CO safety drills at least every 6 months to make sure that everyone, even small children, know what to do in order to escape safely.
✓ Know where to go to call the Fire Department from outside your residence.

☞ ***NOTE:*** *This unit is designed to detect carbon monoxide (CO) entering its sensing chamber. It does not sense combustible gas (such as natural gas, propane or butane), heat, smoke or flames.*

- **3.3** This CO alarm is designed for use within a single residential living unit only. In a multi-family building, the alarm may not provide early warning for residents if it is placed outside of the residential units, such as on outside porches, in corridors, lobbies, basements, or in other apartments. In multi-family buildings, each residential unit should have detectors installed as previously indicated.
- **3.4** When properly located, installed, and maintained, this CO alarm is designed to provide early warning of developing poisonous CO conditions at a reasonable cost. This alarm monitors the air, and when it senses CO, it activates its built-in alarm. It can provide precious time for you and your family to escape from your residence before CO can seriously injure or kill. However, such an early warning is possible only if the alarm is located, installed, and maintained as specified in the Owner's Manual.

4.0 IMPORTANT: WHAT YOUR CO ALARM CAN AND CANNOT DO

If bedroom doors are usually closed at night, alarms should be placed in each bedroom as well as in the common hallway between them. CO alarms may not sense CO on a different level of a residence or building. For example, a second floor alarm may not sense a CO leak on the first floor or in the basement.

Therefore, alarms should be placed on every level of a residence or building. If the alarm is located outside of a bedroom, it may not wake up a sound sleeper, especially if the bedroom door is closed or only partly open. If the alarm is located on a different level of the residence than the bedrooms, it is even less likely to wake up people sleeping in the bedroom.

Installing CO alarms may qualify you for lower homeowner's insurance rates, but CO alarms are not a substitute for insurance. Homeowners and renters should continue to insure their lives and property.

★ ***WARNING:*** *The DXS-80 CO Alarm is not designed for marine, aircraft, automobile or RV use.*

5.0 INSTALLING THE DXS-80 FOR RESIDENTIAL USE

- **5.1** RECOMMENDATIONS One of the most important considerations in any CO alarm system is the location of the alarms. Statistics of the National Fire Protection Association (NFPA) show that most of the fatal CO occurrences happen at night while people are sleeping. Early warning of CO is best achieved by the correct installation of CO alarms. Placement of an alarm in a garage may cause an alarm due to CO from automotive exhaust.
- **5.2** RECOMMENDED MOUNTING LOCATIONS Put a CO alarm inside each bedroom where the occupant closes the door while sleeping. A closed door can block particulate smoke, but CO gas is likely to get through.
- **5.3** This CO alarm must be mounted on the wall or ceiling.
- **5.4** LOCATIONS TO AVOID Placing units where they will not operate properly causes nuisance alarms. To avoid nuisance alarms, do not place units:

✓ Within 5 feet (1.5m) of any cooking appliance or furnace.
✓ Near an open window or door, because the fresh air entering the opening may delay CO from reaching the alarm.
✓ In damp or very humid areas or next to bathrooms with showers or tubs. Install detectors at least 10 feet (3 meters) away from bathrooms.
✓ In very cold or very hot environments or in unheated buildings or outdoor rooms where the temperature can go below or above the operating range of the alarm. Temperature limits for proper operation are 40° F to 100° F (4.4° C to 37.8° C).
✓ Good ventilation is recommended when household cleaning supplies or similar contaminants are used.

- **5.5** SOME CONDITIONS WHICH CAN RESULT IN TEMPORARY CO SITUATIONS:
  - **5.5.1** Excessive spillage or reverse venting of fuel burning appliances caused by outdoor ambient conditions, such as:
    a. Wind direction and/or velocity, including high gusts of wind. Heavy air in the vent pipes (cold/humid air with extended periods between cycles).
    b. Negative pressure differential resulting from the use of exhaust fans.
    c. Simultaneous operation of several fuel burning appliances competing for limited internal air.
    d. Vent pipe connections vibrating loose from clothes dryers, furnaces, or water heaters.
    e. Obstructions in or unconventional vent pipe designs which can amplify the above situations.
  - **5.5.2** Extended operation of unvented fuel burning devices (range, oven, fireplace, etc.)
  - **5.5.3** Temperature inversions, which can trap exhaust gasses near the ground.
  - **5.5.4** Car idling in an open or closed area garage, or near a home.

This device complies with FCC Rules Part 15 and Industry Canada Rules and Regulations. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation

LINEAR LIMITED WARRANTY

This Linear product is warranted against defects in material and workmanship for twelve (12) months. The Warranty Expiration Date is labeled on the product. **This warranty extends only to wholesale customers** who buy direct from Linear or through Linear's normal distribution channels. **Linear does not warrant this product to consumers.** Consumers should inquire from their selling dealer as to the nature of the dealer's warranty, if any. **There are no obligations or liabilities on the part of Linear LLC for consequential damages arising out of or in connection with use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstallation.** All implied warranties, including implied warranties for merchantability and implied warranties for fitness, are valid only until Warranty Expiration Date as labeled on the product. **This Linear LLC Warranty is in lieu of all other warranties express or implied.**
All products returned for warranty service require a Return Product Authorization Number (RPA#). Contact Linear Technical Services at 1-800-421-1587 for an RPA# and other important details

IMPORTANT!!!

Linear radio controls provide a reliable communications link and fill an important need in portable wireless signaling. However, there are some limitations which must be observed.

- For U.S. installations only: The radios are required to comply with FCC Rules and Regulations as Part 15 devices. As such, they have limited transmitter power and therefore limited range.
- A receiver cannot respond to more than one transmitted signal at a time and may be blocked by radio signals that occur on or near their operating frequencies, regardless of code settings.
- Changes or modifications to the device may void FCC compliance.
- Infrequently used radio links should be tested regularly to protect against undetected interference or fault.
- A general knowledge of radio and its vagaries should be gained prior to acting as a wholesale distributor or dealer, and these facts should be communicated to the ultimate users.

FCC/IC

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