

GC005-V2 thru GC600-V2

Wireless Load Cell

Features

- Standard single part line pull sizes ranging from 5,000 to 600,000 lb.
- All stainless frame and hardware
- Heavy duty construction from 17-4PH1150 stainless steel (17-4PH1025 on models 250,000lb and up)
- Accuracy of +/-1% on a single part of line
- Option available with CSA Class 1 division 1 certification.
- Ships calibrated
- Stock and custom bushings for most applications.
- Radio range with line of sight: 4000 ft. (1300 m)
- Operates with one 'D' cell battery lithium 3.6V or alkaline 1.5V.
- 2 years battery life for typical applications
- ISM license free radio: wavelength and modulation optimized for radio communication in industrial environments.
- Temperature range: -40°C to 85°C (-40°F to 185°F)
- Temperature compensated
- Potted electronics for increased water protection
- Rugged field-replaceable antenna (TA011)
- Custom sizes on request
- 2-year warranty
- Designed with a safety factor of 5:1 on the safe working load.
- All load bearing bodies have been tested by ultrasounds, die-penetrant and proof loaded to 150% of capacity.

Applications

Designed for all applications in the lifting industry, including offshore, that do not require the load cell to be submerged (due to radio communications). Installation above a ball, odd parted on the block, or even parted on the boom tip.

General Description

The load cell is installed in-line with the wire-rope. This load creates minute deformations of the load cell and electronics convert it into a load value, which is transmitted to the receiving unit.

The transmitter box mounted to the load cell houses the battery, radio transmitter, and load converter.



Wireless Load Cell

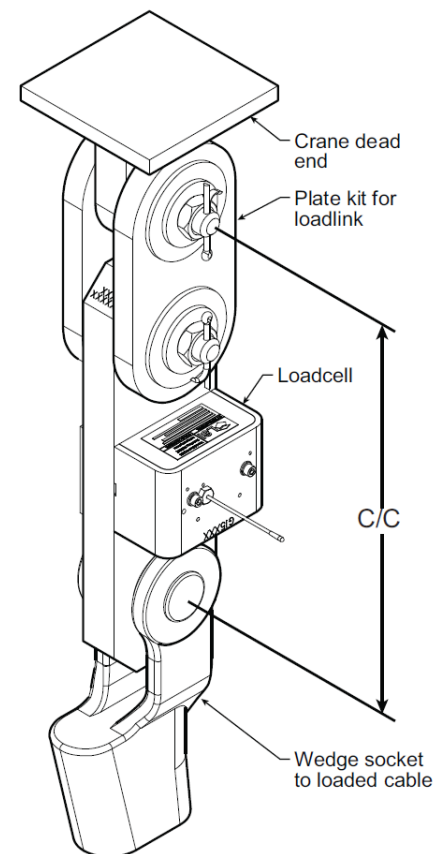


Figure: Typical installation on a crane

GC005-V2 thru GC600-V2

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Ordering Information

Model	Description
GCxxx-V2	Load Cell. The three 'X' digits are working load limit (WLL) in thousands of pounds. For example, GC060-V2 is for a 60,000-lb WLL or 27215-kg WLL. Load cell is FCC approved.
GCxxx-CSA-V2	Load cell certified Class 1 Division 1, suitable for Div 1 and Div 2
GCxxx-xx-CE-V2	Load cell CE certified, with radio frequency suitable for Europe, most of Asia and Middle East
LC6XX-XX	Appropriate adapter plate kit for load cell (see table page 6).
LC6XX-5X	Appropriate 90° adapter plate kit for load cell (see table page 8).

Examples:

GC170-V2: is a 170,000 lbs load cell with FCC certification.

GC005-V2 thru GC600-V2

Specifications

Parameter	Test Condition	Min	Typ	Max	Unit
Load Tension Measurement					
Resolution	+/-	0.025	0.075	0.2	% of SWL
Accuracy	+/-	0.5	1	2	% of SWL
Radio Power					
	GCXXX-V2		0.0054 7		W dBm
Radio Frequency					
North American version	GCXXX-V2	903		927	MHz
European version	GCXXX-CE-V2	868		870	MHz
Battery life					
	'D' cell lithium	12	24	28	Month
	'D' cell alkaline	8	12	16	Month

Absolute Maximum Ratings

Parameter	Test Condition	Min	Typ	Max	Unit
Ambient temperature range	Operating	-40		+60	°C
		-40		+140	°F
	Storage	-40		+85	°C
		-40		+185	°F

Certifications

FCC/IC/CE certification : FCC Part 15 Subpart C 15.247,15.205, 15.207 & 15.209
ETSI EN 300 220 (AA)

EMI/C - EN 61000-4-3, EN 301 489-1 - Clause 8.2

CSA Certificate Number - 80130757

CSA C22.2 No. 60079-0:19, 60079-11:14 (R2018), 61010-1-12, Update 1&2, Amd1:2018
UL 60079-0-2020, UL 60079-11-2018, UL 61010-1-2018

Class I, Division 1, Group A, B, C & D T4
Ex ia IIC T4 Ga
Class I, Zone 0, AEx ia IIC T4 Ga

Ambient Temperature: -20°C to 40°C.

GC005-V2 thru GC600-V2



WARNING: Only use Tadiran TL-5930 3.6V or Saft LS33600 cell 3.6V text.
l'avertissement: Utilisez uniquement du texte Tadiran TL-5930 3,6 V ou Saft LS33600 3,6 V.

Specifications by Model and Options

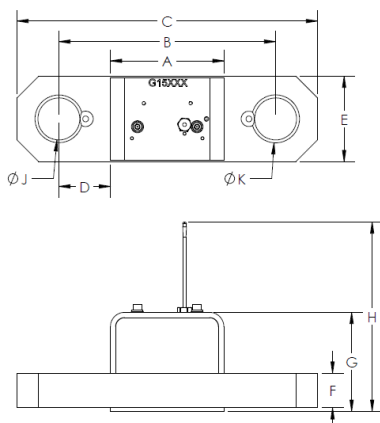
Load Cell model	Max load		Weight	
	(lb)	(kg)	(lb)	(kg)
GC005-V2	5000	2270	5	2.3
GC012-V2	12000	5440	9.00	4.08
GC018-V2	18000	8160	10.00	4.54
GC035-V2	35000	15880	16.00	7.26
GC060-V2	60000	27215	29.00	13.15
GC100-V2	100000	45360	46.00	20.87
GC170-V2	170000	77000	94.00	42.64
GC250-V2	250000	113400	106.00	48.08
GC300-V2	300000	136100	122.00	55.34
GC400-V2	400000	181000	199.00	90.26
GC600-V2	600000	227000	288.00	130.63

Materials

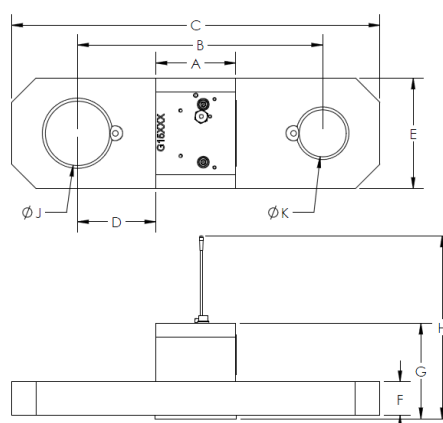
The load cell and hardware are made of stainless steel, AISI 304 and 17-4PH1150 (up to GC170) or 17-4PH1025 (GC250 and over). The bushings are made from 1045 steel.

Dimensions (Not to Scale)

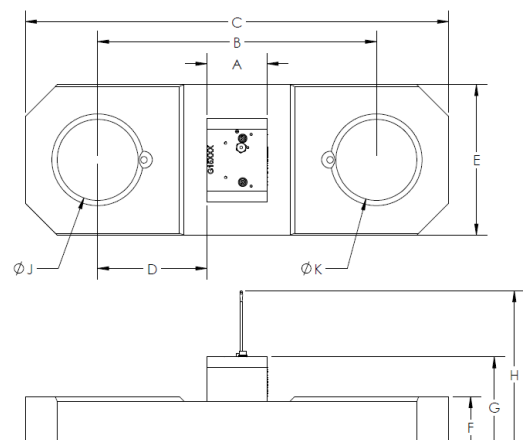
GC005-V2 - GC018-V2



GC035-V2 - GC100-V2



GC170-V2 - GC600-V2



GC005-V2 thru GC600-V2

Load Cell		DIMENSIONS									
		A	B	C	D	E	F	G	H	Ø for Pin	ØK for Pin
GC005-V2	(in)	3.93	6.20	8.30	1.14	2.95	0.65	3.00	6.12	7/8	7/8
	(mm)	99.8	157.5	210.8	28.9	74.9	16.5	76.2	155.4	22	22
GC012-V2	(in)	3.93	7.50	10.40	1.79	2.95	0.95	3.17	6.28	1-1/4	1-1/4
	(mm)	99.8	190.5	264.2	45.4	74.9	24.1	80.4	159.6	32	32
GC018-V2	(in)	3.93	7.50	10.40	1.79	2.95	1.20	3.44	6.55	1-3/8	1-3/8
	(mm)	99.8	190.5	264.2	45.4	74.9	30.5	87.2	166.4	35	35
GC035-V2	(in)	2.86	8.75	13.15	2.79	3.95	1.20	3.42	6.54	2-1/4	1-5/8
	(mm)	72.5	222.3	334.0	70.9	100.3	30.5	86.7	166.0	57	41
GC060-V2	(in)	2.86	9.00	14.58	3.32	4.95	1.65	3.92	7.04	2-1/2	2-1/2
	(mm)	72.5	228.6	370.33	84.3	125.7	41.9	99.5	178.7	63	63
GC100-V2	(in)	2.86	11.60	18.90	4.37	6.00	2.00	4.22	7.34	3	3
	(mm)	72.5	294.6	480.1	111.0	152.4	50.8	107.1	186.3	76	76
GC170-V2	(in)	2.86	13.00	21.20	5.07	7.00	3.00	4.98	8.10	3-1/8	3-1/8
	(mm)	72.5	330.2	538.5	128.8	177.8	76.2	126.5	205.7	80	80
GC250-V2	(in)	2.86	14.50	23.56	5.82	7.10	2.88	4.76	7.87	3-3/4	3-3/4
	(mm)	72.5	368.3	598.4	147.9	180.3	73.2	120.8	200.0	95	95
GC300-V2	(in)	2.86	14.00	23.688	5.57	7.44	3.38	5.04	8.15	4-1/4	4-1/4
	(mm)	72.5	355.6	601.5	141.5	189.0	85.7	127.9	207.1	108	108
GC400-V2	(in)	2.86	17.50	28.78	7.32	8.67	3.88	5.32	8.44	5	5
	(mm)	72.5	444.5	731.0	186.0	220.2	98.4	135.1	214.3	127	127
GC600-V2	(in)	2.86	19.00	32.08	8.07	10.70	3.88	5.44	8.55	5-1/4	5-1/4
	(mm)	72.5	482.6	814.8	205.0	271.8	98.4	138.0	217.2	133	133

GC005-V2 thru GC600-V2

Standard Bushings

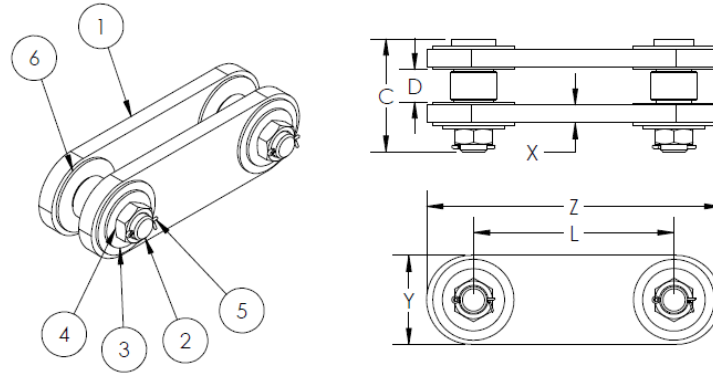
Load Cell	Bushing	ADAPTS TO PIN ϕ	
		(in)	(mm)
GC012-V2	PC401	1	25
GC018-V2	PC118	1-1/4	32
GC035-V2	PC424	1-1/2	38
	PC425	1-5/8	41
	PC426	1-3/4	44
	PC427	1-7/8	48
	PC428	2	50
	PC429*	1-1/4	32
GC060-V2	PC114	2-1/4	57
	PC115	2	51
GC100-V2	PC416	2-1/2	64
	PC419	2-3/4	70
	PC431	2	51
GC170-V2	PC448	2-1/4	57
	PC449	2-1/2	64
GC250-V2	PC443	2-1/4	57
	PC444	2-3/4	70
	PC445	3-1/4	83
GC300-V2	PC446	3-3/4	96
	PC447	4-1/8	105
GC400-V2	PC453	4-1/8	105
	PC454	4-1/4	108
	PC455	4-3/4	121
GC600-V2	PC456	5	127

Standard included bushings are in **bold** and depends on adapter plate kit when load cell and adapter plate kit are ordered together.

*Fits in the 1-5/8 hole, the other bushings for the GC035 fit in the 2-1/4 hole.

GC005-V2 thru GC600-V2

Adapter Plate Kits (designed with a 5:1 safety factor)



Load Cell	Kit #	Plate ITM 1	Pin Number	Pin ITM 2	Nut Washer ITM 3	Nut ITM 4	Cotter Pin ITM 5	Washer ITM 6	Qty	Bushing* ITM 7	WLL lb (kg)
GC012-V2	LC612-01	PC612-01	1	PC501	QW912	QV930	QP003S	QW901	6	PC401	12,000 (5454)
			2	PC502	QW912	QV930	QP003S	QW902	6		
GC018-V2	LC618-01	PC618-01	1	PC502	QW912	QV930	QP003S	QW902	4	PC118	18,000 (8181)
			2	PC503	QW912	QV930	QP003S	QW906	4		
GC035-V2	LC635-01	PC635-01	1	PC502	QW912	QV930	QP003S	QW902	2	PC429	35,000 (15909)
			2	PC502	QW912	QV930	QP003S	QW902	2	PC423	
	LC635-02	PC635-02	1	PC506	QW902	QV950	QP003S	QW903	6		35,000 (15909)
			2	PC504	QW907	QV951	QP004S	QW904	6	PC428	
	LC635-03	PC635-03	1	PC506	QW902	QV950	QP003S	QW903	6		35,000 (15909)
			2	PC505	QW902	QV950	QP003S	QW903	6	PC424	
	LC635-04	PC635-04	1	PC506	QW902	QV950	QP003S	QW903	6	PC424	35,000 (15909)
			2	PC505	QW902	QV950	QP003S	QW903	6	PC424	
	LC635-06	PC635-02 (w/ PC432)	1	PC524	QW902	QV951	QP003S	QW908	6	PC427	35,000 (15909)
			2	PC506	QW903	QV950	QP003S	QW903	6		
	LC635-07	PC635-02 (w/ PC417)	1	PC519	QW902	QV951	QP004S	QW908	6	PC426	35,000 (15909)
			2	PC506	QW903	QV950	QP003S	QW903	6		
	LC635-09	PC635-05	1	PC522	QW903	QV951	QP004S	QW904B	4		35,000 (15909)
			2	PC506	QW903	QV950	QP003S	QW903	4		
GC060-V2	LC660-01	PC660-01	1	PC506	QW902	QV950	QP003S	QW903	2	PC108	60,000 (27272)
			2	PC506	QW902	QV950	QP003S	QW903	2	PC108	
	LC660-02	PC660-02	1	PC508	QW903	QV951	QP004S	QW904B	4	PC114	60,000 (27272)
			2	PC507	QW903	QV951	QP004S	QW904	4	PC115	
	LC660-03	PC660-03	1	PC508	QW903	QV951	QP004S	QW904B	4	PC114	60,000 (27272)
			2	PC507	QW903	QV951	QP004S	QW904	4	PC115	
	LC660-04	PC660-04	1	PC508	QW903	QV951	QP004S	QW904B	4	PC114	60,000 (27272)
			2	PC507	QW903	QV951	QP004S	QW904	4	PC115	
	LC660-05	PC660-05	1	PC509	QW904	QV952	QP004S	QW904C	10		60,000 (27272)
			2	PC509	QW904	QV952	QP004S	QW904C	10		
	LC660-06	PC660-06	1	PC509	QW904	QV952	QP004S	QW904C	10		60,000 (27272)
			2	PC509	QW904	QV952	QP004S	QW904C	10		

* Bushings not included. Required bushings included with load when load cell and adapter plate are ordered together.

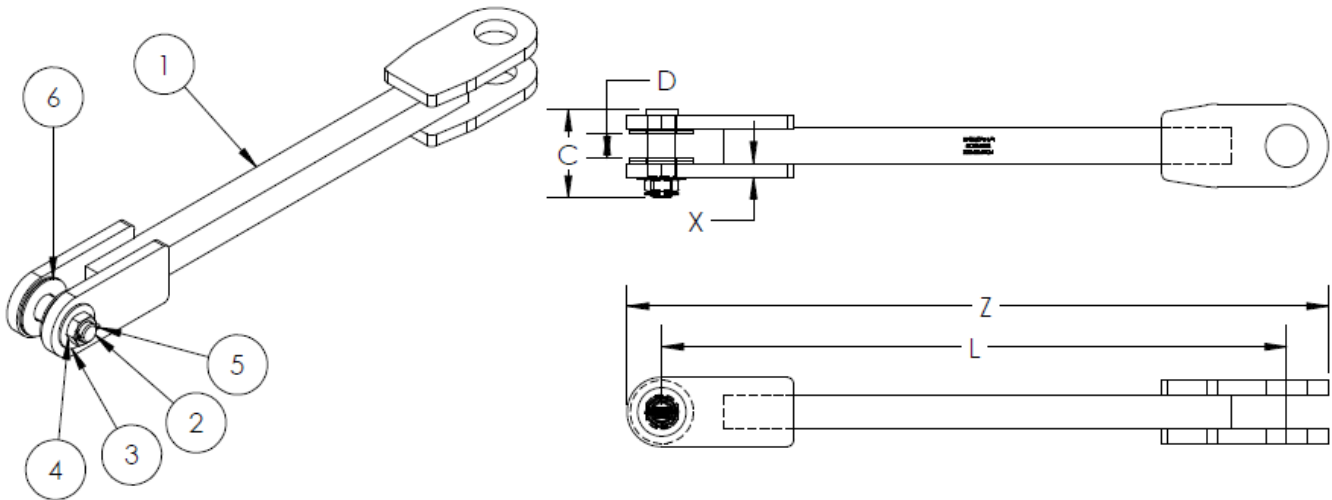
GC005-V2 thru GC600-V2

Adapter Plate Geometry

Load Cell	Kit #		Pin 1 Diameter	Pin 2 Diameter	C	D	L	X	Y	Z
GC012-V2	LC612-01	(in)	1.00	1.25	4.23	2.00	3.75	0.50	3.00	6.75
		(mm)	25.4	31.8	107.4	50.8	95.3	12.7	76.2	171.5
GC018-V2	LC618-01	(in)	1.25	1.38	4.23	1.75	4.25	0.63	3.00	7.35
		(mm)	31.8	34.9	107.4	44.5	108.0	15.9	76.2	186.7
GC035-V2	LC635-01	(in)	1.25	1.25	4.23	1.50	4.25	0.75	4.00	8.25
		(mm)	31.8	31.8	107.4	38.1	108.0	19.1	101.6	209.6
	LC635-02	(in)	1.63	2.00	5.84	2.50	7.25	0.75	4.00	11.50
		(mm)	41.3	50.8	148.3	63.5	184.2	19.1	101.6	292.1
	LC635-03	(in)	1.63	1.50	5.53	2.50	10.25	0.75	4.00	14.50
		(mm)	41.3	38.1	140.5	63.5	260.4	19.1	101.6	368.3
	LC635-04	(in)	1.63	1.50	5.53	2.50	36.00	0.75	4.00	40.25
		(mm)	41.3	38.1	140.5	63.5	914.4	19.1	101.6	1022.4
	LC635-06	(in)	1.88	1.63	5.84	2.50	7.25	0.75	4.00	8.25
		(mm)	47.6	41.3	148.3	63.5	184.2	19.1	101.6	209.6
	LC635-07	(in)	1.75	1.63	5.84	2.50	7.25	0.75	4.00	8.25
		(mm)	44.5	41.3	148.3	63.5	184.2	19.1	101.6	209.6
	LC635-09	(in)	2.25	1.63	5.84	2.50	6.00	0.75	4.00	10.10
		(mm)	57.2	41.3	148.3	63.5	152.4	19.1	101.6	256.5
GC060-V2	LC660-01	(in)	1.63	1.63	5.53	2.00	5.25	1.00	5.00	10.25
		(mm)	41.3	41.3	140.5	50.8	133.4	25.4	127.0	260.4
	LC660-02	(in)	2.25	2.00	6.34	2.50	5.25	1.00	5.00	10.50
		(mm)	57.2	50.8	161.0	63.5	133.4	25.4	127.0	266.7
	LC660-03	(in)	2.25	2.00	6.34	2.50	11.25	1.00	5.00	16.50
		(mm)	57.2	50.8	161.0	63.5	285.8	25.4	127.0	419.1
	LC660-04	(in)	2.25	2.00	6.34	2.50	24.00	1.00	5.00	29.25
		(mm)	57.2	50.8	161.0	63.5	609.6	25.4	127.0	743.0
	LC660-05	(in)	2.50	2.50	8.09	3.00	7.25	1.00	5.00	12.50
		(mm)	63.5	63.5	205.5	76.2	184.2	25.4	127.0	317.5
	LC660-06	(in)	2.50	2.50	8.09	3.00	11.25	1.00	5.00	16.50
		(mm)	63.5	63.5	205.5	76.2	285.8	25.4	127.0	419.1

GC005-V2 thru GC600-V2

Adapter Plate Kits



Load Cell	Kit #	Adapter Bar ITM 1	Pin Number	Pin ITM 2	Nut Washer ITM 3	Nut ITM 4	Cotter Pin ITM 5	Washer ITM 6	Qty	Bushing ITM 7	WLL lb (kg)
GC035-V2	LC635-51	PC635-51	1	PC531	---	QV954	QP003	---	---	---	35,000 (15909)
			2	PC530	---	QV954	QP003	---	---	PC405	
GC060-V2	LC660-51	PC660-51	1	PC507	QW903	QV951	QP004S	QW904	4	PC108	60,000 (27272)
			---	---	---	---	---	---	---	---	

	Kit #		Pin 1 Diameter	Pin 2 Diameter	C	D	L	X	Z
GC035-V2	LC635-51	(in)	1.63	1.50	3.93	1.50	24.00	0.75	28.00
		(mm)	41.3	38.1	99.8	38.1	609.6	19.1	711.2
GC060-V2	LC660-51	(in)	2.00	3.00*	6.34	2.50	45.00	1.00	50.50
		(mm)	50.8	76.2*	161.0	63.5	1143.0	25.4	1282.7

*Pin not included with Adapter kit

GC005-V2 thru GC600-V2

PMN: GC018-V2, GC035-V2

HVIN: MB103-00-SD-A

FCC Compliance Statement (USA)

FCC ID: S9E-GS200A

Compliance Statements: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including, an interference that may cause undesired operation.

Caution Statements:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Industry Canada (IC) Compliance Statement

IC: 5817A-GS000A

Compliance Statements: This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: 1) This device may not cause interference., 2) This device must accept any interference, including interference that may cause undesired operation of the device.

Déclarations de conformité: Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Caution Statements:

- This equipment complies with radio frequency exposure limits set forth by Industry Canada for an uncontrolled environment.
- This equipment should be installed and operated with a minimum distance of 20 cm between the device and the user or bystanders.

Déclarations de mise en garde:

- Cet équipement est conforme aux limites d'exposition aux radiofréquences définies par Industrie Canada pour un environnement non contrôlé.
- Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance dispositif et l'utilisateur ou des tiers.

Information to the User

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.