SPECIFICATIONS & FUNCTIONAL DESCRIPTION

WT-30 - TRANSMITTER

1.0   DESCRIPTION
The WT-30 is a low-power three channel hand held remote control device operating at a frequency of 372.5 MHz. The signal output is a binary-coded, pulse-position type A1D modulated transmission. It is coded by the Microchip HCS201 code-hopping encoder which has a 66 bit transmission code length.

The WT-30 is compatible with the Linear's model RWR remote Access Control Receiver and 372.5 MHz Rolling Code Wayne Dalton garage door operators.

Actuating any of the three push buttons illuminates a light-emitting diode (LED) and activates the transmitter. Releasing the push-button immediately terminates transmission. Transmission time is limited to 30 seconds if button is held on.

2.0   FUNCTIONAL DESCRIPTION
The push-button switches, S1-3, applies power to the unit and activates L.E.D. (D1).

Digital encoding is a function of microprocessor, U1. An internally generated clock within microcontroller U1 outputs a 66 bit serial data stream that encodes the RF transmitter.

The RF oscillator Q1 functions as a tuned Colpitts oscillator / driver whose frequency control and feedback is determined by SAW resonator FR1 and R7. The frequency of oscillation is controlled by SAW resonator FR1. Q2 is the RF output amplifier. The inductive trace load E1 is configured on the circuit board as the principle-radiating element. Base bias resistors R6 & R8 in conjunction with the coupling capacitor C4 regulates the power output of the oscillator.

Because of the transmitter's small size, its radiation pattern is similar to that of an elementary dipole.

3.0 SPECIFICATIONS

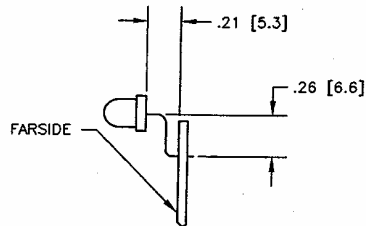|	
Product Identification:	WT-30, Three channel garage door transmitter
Encoding Technique:	A1D Pulse position Modulation
Number of codes:	Keeloq Rolling Code
RF Carrier Frequency:	372.5 MHz +\- 125 KHz
Power Requirements:	6 VDC - two 3 volt #2016 coin cell lithium batteries, 12 mA maximum current - operating, < 1 uA standby
Operating Temperature Range:	0 to 70 $^{\circ}$C Tested −30 to +70 $^{\circ}$C
Timing:	30-second maximum transmission per activation
Size:	3.75" x 2.15" x 0.90" (approx.)

All specifications nominal unless specified.
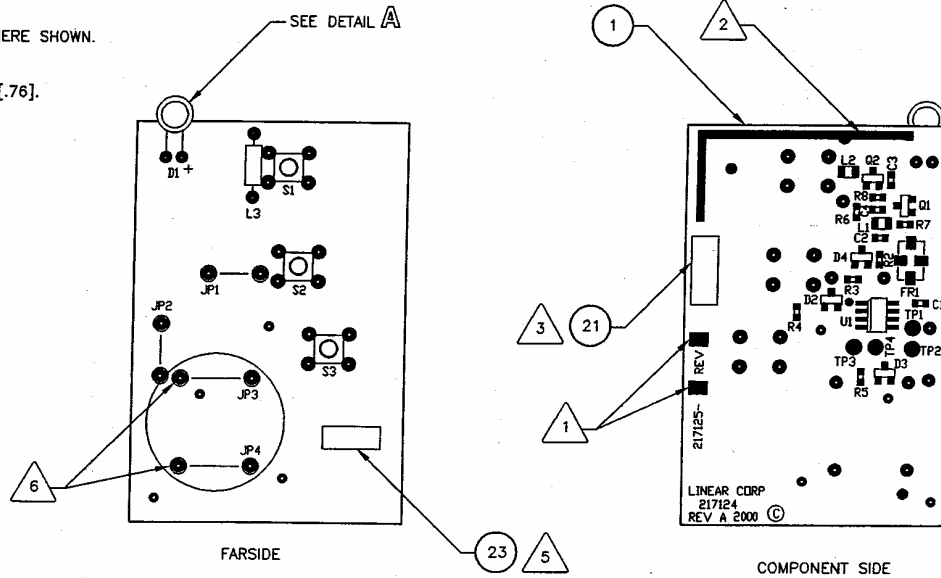
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. MARK ASSEMBLY DASH NUMBER AND REVISION LETTER USING .12 [3.0] HIGH CHARACTERS, PERMANENT INK, CONTRASTING COLOR APPROXIMATELY WHERE SHOWN.

2. ANTENNA (E1) IS A TRACE ON THE PCB.

3. PLACE DATE CODE LABEL (ITEM 21) APPROXIMATELY WHERE SHOWN.

4. MOUNT LED (D1) AS SHOWN. SEE DETAIL A.

5. PLACE BLOCK CODE LABEL (ITEM 23) APPROXIMATELY WHERE SHOWN.

6. MAXIMUM HEIGHT OF JP3, JP4 OFF THE BOARD IS .030 [.76].

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REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	PRODUCTION RELEASE PER ECO 7523	6-8-00	

SEE DETAIL A

1   2

D1 +
S1
L3
JP1   S2
JP2
JP3
JP4
S3

3   21

REV
217125-

LINEAR CORP
217124
REV A 2000 ©

1

FARSIDE

23   5

L2 Q2 C3
R1
R8
R6   Q1
C2   R7
D4
D2 R3   FR1
R4   TP1   C1
U1   TP4
TP3   TP2
R5   D3

COMPONENT SIDE

.21 [5.3]
.26 [6.6]
FARSIDE

6

DETAIL A
4   SCALE: NONE

SEE SEPARATE PARTS LIST

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN: INCHES [MM] TOLERANCES: LINEAR: .X± .1 [3] ANGLES: ± 0.5° .XX± .02 [.5] CONCENTRICITY: ± .005 [.13] .XXX± .005 [.13] FLATNESS: ± .005 [.13]	PROJECT:		*Linear* 2055 CORTE DEL NOGAL • CARLSBAD, CA 92009	
	CAD OPERATOR: K. WARREN	DATE 5/23/00		
MATERIAL:	CHECKED:	DATE	TITLE: ASSY, PCB, GT-30, 3 PB, VISOR XMTR	
	APPROVED:	DATE 6-8-00		
	APPROVED:	DATE		
FINISH:	APPROVED:	DATE	SIZE: C	FSCM NO.:	DRAWING NO.: 217125	REV.: A
DO NOT SCALE DRAWING	APPROVED:	DATE	SCALE: 2/1		SHEET: 1 OF: 1

LINEAR LLC
FCC ID: EF4 ACP00930

PARENT PART: ACP00930   F/G WT-30,3PB VISOR XMTR   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	217123-02 EA ASSY,MECH,WT-30	#	NP	99	P	*	P	*	P	1
0002	224221 EA INSTR,INSTL,WT-30	#	NP	DC	P	*	P	*	P	1
0003	217431 EA PARTITION,6.30 X 2.25	A	NP	DC	P	1	P	*	P	0.500000
0004	106403 EA BAG,POLY,4X8,1.2MIL	B	99	CU	P	1	P	C	P	1
0005	217276 EA LABEL,BLOCK CODED TX,BLANK	A	NP	CE	P	1	P	*	P	0.115000
0006	711088 EA LABEL,UPC,SINGLE BOX,WT-30	#	NP	CE	P	*	P	*	P	0.100000
0007	217388 EA BOX,DISPLAY,7.60 X 6.35 X 2.55	A	NP	CU	P	1	P	*	P	0.100000
0008	811088 EA LABEL,BAR,MSTR CTN,WT-30	#	NP	CE	P	*	P	*	P	0.010000
0009	200900 EA BOX,SHIPPING,16.10 X 13.62 X 6.61	C	99	CU	P	1	P	C	P	0.010000
0010	911088 EA LABEL,BAR,SHPG CTN,WT-30	#	NP	CE	P	*	P	*	P	0.005000
0011	201103 EA BOX,SHIPPING,16.85 X 14.37 X 15.39	B	NP	CU	P	1	P	*	P	0.005000
0990	217122 EA F/G GT-30,3 PB,VISOR XMTR	B	NP	DC REFERENCE ONLY	P	1	P	*	P	0
0991	217127 EA BLOCK DIAGRAM,GT-30,3 PB,VISOR XMTR	A	NP	DC REFERENCE ONLY	P	1	P	*	P	0
0992	224217 EA SPECS,WT-30	#	NP	DC REFERENCE ONLY	P	*	P	*	P	0
0993	224244 EA PROC,BLOCK CODING,WT XMTRS	#	NP	CE REFERENCE ONLY	P	*	P	*	P	0

NOTES:

      END OF REPORT

PARENT PART: 217123-02   ASSY,MECH,WT-30   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	217125-02	#	NP	99	P	*	P	*	P	1
	EA ASSY,PCB,WT-30									
0002	217214-002	D	NP	DC	P	1	P	*	P	1
	EA CASE,FRONT,3 PB,VISOR XMTR,PMS5C									
0003	217215-002	D	NP	DC	P	1	P	*	P	1
	EA CASE,REAR,3 PB,VISOR XMTR,PMS5C									
0004	217216-002	E	NP	DC	P	1	P	*	P	1
	EA BUTTON,3 PB,VISOR XMTR,WHITE									
0005	217239	A	NP	DC	P	1	P	*	P	1
	EA CLIP,BATTERY,2016									
0006	214829	A	99	CG	P	1	P	C	P	1
	EA CLIP,VISOR,MULTICODE									
0007	213691	B	NP	CG	P	1	P	*	P	1
	EA SCR,TF,TYP B,4X5/16,FLH,PH,S/BLK OX									
0008	224222	#	NP	CE	P	*	P	*	P	1
	EA LABEL,FCC,WT-30									
0009	202732	C	99	AH	P	1	P	C	P	2
	EA BATT,3V,LITHIUM,2016 BT1,2									
0010	217362	B	NP	CE	P	1	P	*	P	1
	EA LABEL,BLOCK CODE,TX ID,CUSTOM									
0011	202847	C	99	CE	X	1	P	C	P	1
	EA LABEL,WARR/DATE,1 YEAR,GRAY									
0990	217123	B	NP	DC	P	1	P	*	P	0
	EA ASSY,MECH,GT-30,3 PB,VISOR XMTR REFERENCE ONLY									
0991	224220	#	NP	DC	P	*	P	*	P	0
	EA TEST PROC,WT ROLLING CODE XMTRS REFERENCE ONLY									
0992	216430	A	NP	CE	P	1	P	*	P	0
	EA DIE-CUT,LABEL,FCC,MINI/MICRO REFERENCE ONLY									
0993	224244	#	NP	CE	P	*	P	*	P	0
	EA PROC,BLOCK CODING,WT XMTRS REFERENCE ONLY									
0994	217214	D	NP	DC	P	1	P	*	P	0
	EA CASE,FRONT,3 PB,VISOR XMTR REFERENCE ONLY									
0995	217215	D	NP	DC	P	1	P	*	P	0
	EA CASE,REAR,3 PB,VISOR XMTR REFERENCE ONLY									
0996	217216	E	NP	DC	P	1	P	*	P	0
	EA BUTTON,3 PB,VISOR XMTR REFERENCE ONLY									

NOTES:

PARENT PART: 217125-02   ASSY,PCB,WT-30   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	217124 A EA PCB,GT-30,3 PB,VISOR XMTR	NP	DB	P	1	P	*	P	1
0002	213812 C EA IC,HC201,CODE HOP ENCODER,SO-8	NP U1	BW	P	1	P	*	P	1
0003	225009 A EA RSONATR,372.5MHZ,RO,1 PORT,SM-2	NP FR1	EV	P	*	P	*	P	1
0004	213383-681 A EA RES,CHIP,1/16W,680,0603,5%	NP R1	DQ	P	1	P	*	P	1
0005	213383-822 A EA RES,CHIP,1/16W,8.2K,0603,5%	NP R2	DQ	P	1	P	*	P	1
0006	213383-103 A EA RES,CHIP,1/16W,10K,0603,5%	NP R3,4,5,6	DQ	P	1	P	*	P	4
0007	213383-563 A EA RES,CHIP,1/16W,56K,0603,5%	NP R7	DQ	P	1	P	*	P	1
0008	213419 C EA CAP,CER,C,16V104P,X7R,10%,0603	NP C1	AO	P	1	P	*	P	1
0009	213391 B EA CAP,CER,C,50V102P,X7R,10%,0603	NP C2	AO	P	1	P	*	P	1
0010	213390 B EA CAP,CER,C,50V103P,X7R,10%,0603	NP C3	AO	P	1	P	*	P	1
0011	213430-039 C EA CAP,CER,C,50V3R9P,COG,.5PF,0603	NP C4	AO	P	1	P	*	P	1
0012	213383-472 A EA RES,CHIP,1/16W,4.7K,0603,5%	NP R8	DQ	P	1	P	*	P	1
0013	210643 D EA LED,RED,TRAN,3MM,T-1,20 DEG	99 D1	CM	P	1	P	C	P	1
0014	205011-006 B EA DIODE,BAV70,DUAL,COM CATH,SOT-23	99 D2	EX	P	1	P	C	P	1
0015	205011-001 D EA DIODE,MMBD914,SWITCH,SOT-23	99 D3,4	BF	P	1	P	C	P	2
0016	109295-103 B EA INDCTR,10UH,CER FERRITE,SMD,1008LS	99 L2	BQ	P	1	P	C	P	1
0017	225020 B EA INDCTR,.12UH,1300MA,10%,AXIAL	NP L3	BP	P	*	P	*	P	1
0018	203687 A EA XSTR,NPN,MMBTH10,SOT-23	99 Q1,2	EN	P	1	P	C	P	2
0019	213107 A EA INDCTR,1UH,SMD,1008CS,10%	NP L1	BR	P	1	P	*	P	1
0020	103877-001 E EA SWITCH,PUSH,MOM,260GF,6X6MM,UL	99 S1,2,3	EG	P	1	P	C	P	3
0021	200691 B EA LABEL,DATE CODE,PRODUCTION,.5"X.2"	99	CE	X	1	S	C	P	1
0022	104242 E FT WIRE,22,SLD,BARE,BULK	99 JP1,2,3,4 FLOOR STOCK	ES	X	1	P	C	P	0
0023	217362 B EA LABEL,BLOCK CODE,TX ID,CUSTOM	NP	CE	P	1	P	*	P	1

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

PARENT PART: 217125-02   ASSY,PCB,WT-30   UM
                                     ERC: #   SRCE CODE: P TYPE: *   ABC

| ITEM | COMPONENT PART NUMBER/ | | PRODUCT | COMM | S | T | S | A | P | EXTENDED |
NO	UM PART DESCRIPTION-REMARKS	ERC	CODE	CODE	C	Y	P	B	L	QTY PER
0024	224234	#	NP	DC	P	*	P	*	P	1
	EA KEELOQ CODES,WT SERIES									
0990	217125	A	NP	DC	P	1	P	*	P	0
	EA ASSY,PCB,GT-30,3 PB,VISOR XMTR		REFERENCE ONLY							
0991	224219	#	NP	DC	P	*	P	*	P	0
	EA SCHEM,WT-30		REFERENCE ONLY							
0992	224244	#	NP	CE	P	*	P	*	P	0
	EA PROC,BLOCK CODING,WT XMTRS		REFERENCE ONLY							
0993	224220	#	NP	DC	P	*	P	*	P	0
	EA TEST PROC,WT ROLLING CODE XMTRS		REFERENCE ONLY							

        NOTES: