

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 °C Tested -30 to +70 °C
Timing:	30-second maximum transmission per activation
Size:	3.75" x 2.15" x 0.90" (approx.)

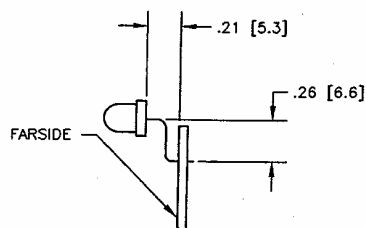
All specifications nominal unless specified.

NOTES: (UNLESS OTHERWISE SPECIFIED)

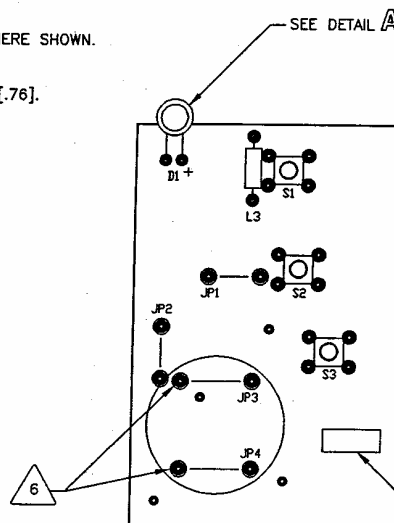
- 1 MARK ASSEMBLY DASH NUMBER AND REVISION LETTER USING .12 [3.0] HIGH CHARACTERS, PERMANENT INK, CONTRASTING COLOR APPROXIMATELY WHERE SHOWN.
- 2 ANTENNA (E1) IS A TRACE ON THE PCB.
- 3 PLACE DATE CODE LABEL (ITEM 21) APPROXIMATELY WHERE SHOWN.
- 4 MOUNT LED (D1) AS SHOWN. SEE DETAIL A.
- 5 PLACE BLOCK CODE LABEL (ITEM 23) APPROXIMATELY WHERE SHOWN.
- 6 MAXIMUM HEIGHT OF JP3, JP4 OFF THE BOARD IS .030 [.76].

FILE COPY

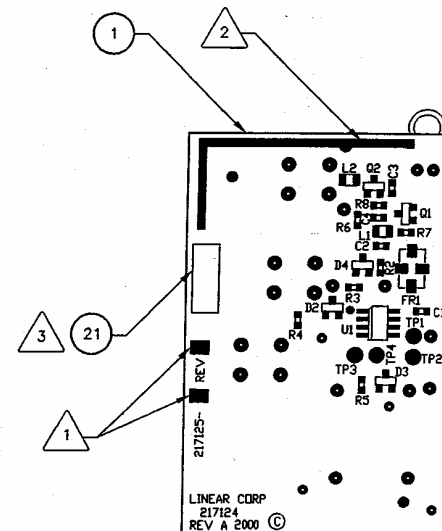
REVISIONS			
ZONE	REV	DESCRIPTION	DATE
	A	PRODUCTION RELEASE PER ECO 7523	6-8-00



DETAIL A
SCALE: NONE



FAR SIDE



COMPONENT SIDE

SEE SEPARATE PARTS LIST

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN: INCHES [MM]		PROJECT:			
TOLERANCES:		CAD OPERATOR:		DATE	
LINEAR:		K. WARREN		5/23/00	
X2 ± .1 [3] ANGLES: ± 0.5°		CHECKED:		DATE	
X3 ± .02 [5] CONCENTRICITY: ± .005 [13]		APPROVED:		DATE	
X4 ± .005 [13] FLATNESS: ± .005 [13]		APPROVED:		DATE	
MATERIAL:		APPROVED:		DATE	
FINISH:		APPROVED:		DATE	
DO NOT SCALE DRAWING		APPROVED:		DATE	
		TITLE:		ASSY, PCB, GT-30, 3 PB, VISOR XMTR	
		SIZE: FSCM NO.:		DRAWING NO.:	
		C		217125	
		SCALE: 2/1		REV: A	
		SHEET: 1 OF 1			

PRINTED 05-Nov-04 04:05 PM

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: ACP00930

F/G WT-30,3PB VISOR XMTR

ERC: #

SRCE CODE: P TYPE: *

UM

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	P	1	P	*	P	0
0991	217127 EA BLOCK DIAGRAM,GT-30,3 PB,VISOR XMTR	A	NP	DC	P	1	P	*	P	0
0992	224217 EA SPECS,WT-30	#	NP	DC	P	*	P	*	P	0
0993	224244 EA PROC,BLOCK CODING,WT XMTRS	#	NP	CE	P	*	P	*	P	0

NOTES:

END OF REPORT

PRINTED 05-Nov-04 04:05 PM

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: 217123-02

ASSY,MECH,WT-30

ERC: #

SRCE CODE: P

TYPE: *

UM

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

NOTES:

PRINTED 05-Nov-04 04:05 PM

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: 217125-02

ASSY,PCB,WT-30

ERC: #

SRCE CODE: P

TYPE: *

UM

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

PRINTED 05-Nov-04 04:05 PM

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: 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
0024	224234 EA KEELOQ CODES,WT SERIES	#	NP	DC	P	*	P	*	P	1
0990	217125 EA ASSY,PCB,GT-30,3 PB,VISOR XMTR	A	NP	DC	P	1	P	*	P	0
0991	224219 EA SCHEM,WT-30	#	NP	DC	P	*	P	*	P	0
0992	224244 EA PROC,BLOCK CODING,WT XMTRS	#	NP	CE	P	*	P	*	P	0
0993	224220 EA TEST PROC,WT ROLLING CODE XMTRS	#	NP	DC	P	*	P	*	P	0

NOTES: