

SPECIFICATIONS & FUNCTIONAL DESCRIPTION

MCT-3 REMOTE CONTROL TRANSMITTER

1.0 DESCRIPTION

The MCT-3 is a low-power hand held remote control device operating at a frequency of 318 MHz. The signal output is a binary-coded, pulse-position type A1D modulated transmission which has an information rate of approximately 167 bits per second (bps). It is coded by Megacode® formatted wireless data for the Linear LLC garage door operators.

Actuating one of the push buttons illuminates a light-emitting diode (LED) and activates the transmitter. Releasing the push-button immediately terminates transmission. Transmission time is limited to 10 seconds if button is held on.

2.0 FUNCTIONAL DESCRIPTION

The push-button switches, S1 - S3 apply power to the unit and activates L.E.D. (D3).

Digital encoding is a function of microprocessor, U1. An internally generated microcontroller clock runs at 4MHz and creates the coding and timing sequence. There are over 1 million possible code combinations. Transmitter coding is done during manufacture and is not user accessible.

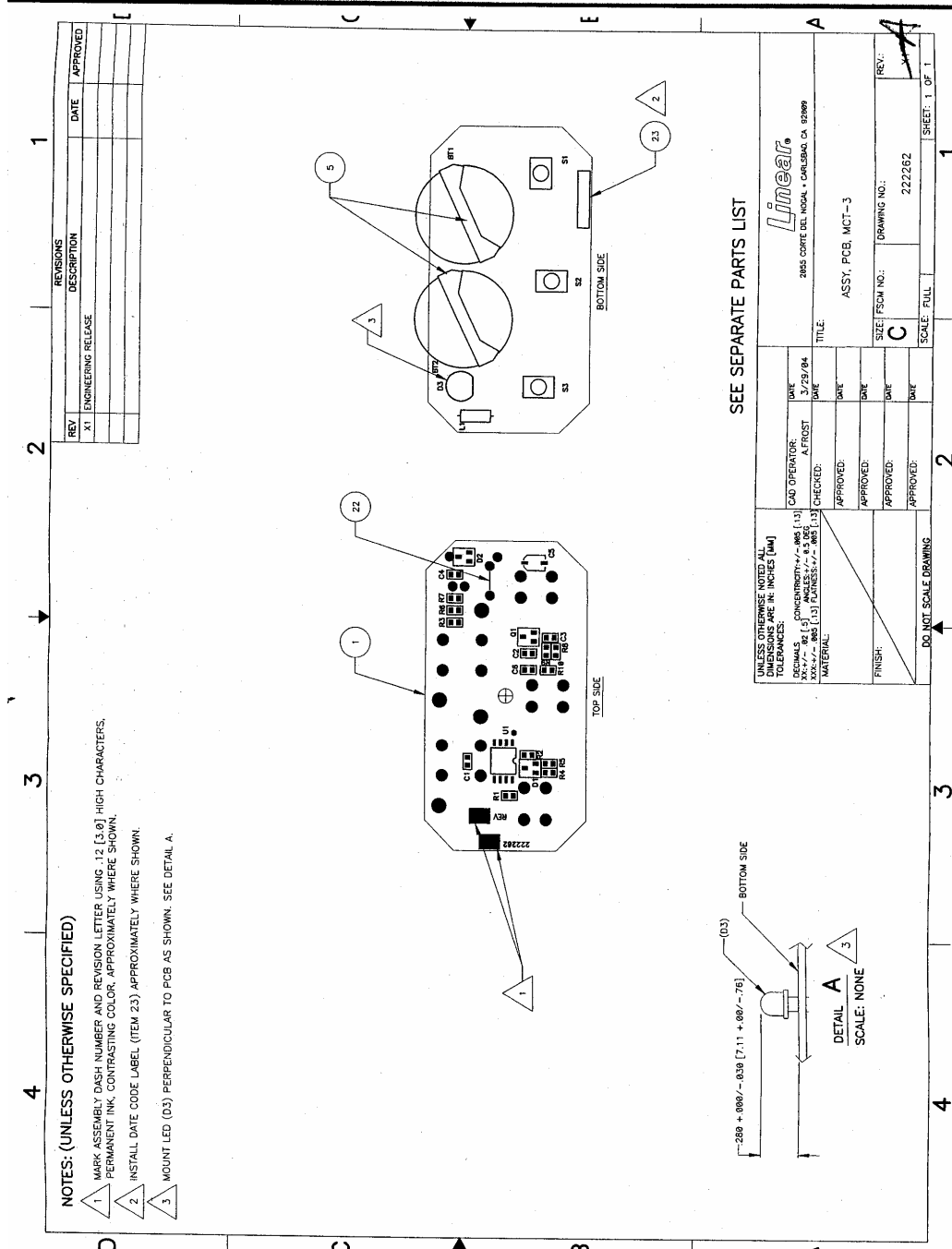
The RF oscillator Q1 functions as a tuned oscillator whose frequency control and feedback is determined by a L/C tank circuit. The inductive trace load L2 is configured on the circuit board as the principle-radiating element with tuning capacitor C5 to adjust the output frequency. Base bias resistors R8 & R9 in conjunction with the feedback capacitors C2 and C3 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:	MCT-3, Three channel remote control transmitter
Encoding Technique:	A1D Pulse position Modulation at 167 bits/sec.
Number of codes:	$> 1 \times 10^6$ (1×2^{20})
RF Carrier Frequency:	318 MHz $\pm$ 2 MHz
Power Requirements:	6 VDC - 3 volt #2032 coin cell lithium batteries, 12 mA maximum current - operating, < 2 uA standby
Operating Temperature Range:	0 to 50 °C Tested -30 to $+70$ °C
Timing:	10-second maximum transmission per activation
Size:	3" x 2" x 0.5" (approx.) Includes metal visor clip accessory.

All specifications nominal unless specified.



REV.	REVISIONS DESCRIPTION	DATE	APPROVED
A1	ENGINEERING RELEASE		

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN: INCHES [MM]		DATE	
TOLERANCES: ANGLES: ± 0.5 DEG		3/29/94	
XXS ± 0.015 [0.38]		A. FROST	
XS ± 0.015 [0.38]		CHECKED:	
X ± 0.015 [0.38]		DATE	
FINISH:		DATE	
DO NOT SCALE DRAWING		DATE	

SIZE	FSOM NO.	DRAWING NO.	REV.
C		222262	A
SCALE	FULL		
SHEET: 1 OF 1			

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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: DNT00089

F/G MCT-3,3 BTN VISIOR XMTR UM
ERC: # SRCE CODE: P TYPE: * ABC

ITEM NO	COMPONENT PART DESCRIPTION-REMARKS	ERC	PRODUCT CODE	COMM CODE	S T S A P C Y P B L	EXTENDED QTY PER
0001	222260-01 EA ASSY, MECH, MCT-3	#	NP	99	P * P * P	1
0002	222267 EA INSTR, INSTL, MCT-3	#	NP	CE	P * P * P	1
0003	200181 EA BOX, PACKING, 800	A	99	CU	P 1 P C P	0.200000
0004	710924 EA LABEL, UPC, SINGLE BOX, MCT-3	#	NP	CE	P * P * P	0.200000
0005	200926 EA BAG, PLASTIC, 4X5	B	99	CU	P 1 P C P	1
0006	201092 EA BOX, SHIPPING, 21.61 X 7.01 X 15.0	C	99	CU	P 1 P C P	0.008000
0007	201101 EA BOX, SHIPPING, 22.36 X 15.35 X 16.14	C	99	CU	P 1 P C P	0.004000
0008	810924 EA LABEL, BAR, MSTR CTN, MCT-3	#	NP	CE	P * P * P	0.008000
0009	910924 EA LABEL, BAR, SHPG CTN, MCT-3	#	NP	CE	P * P * P	0.004000
0990	222259 EA F/G MCT-3	#	NP	DC	P * P * P	0
0991	222263 EA SPECS, MCT-3	#	NP	REFERENCE ONLY DC	P * P * P	0
0992	222264 EA BLOCK DIAGRAM, MCT-3	#	NP	REFERENCE ONLY DC	P * P * P	0

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: 222260-01

ASSY, MECH, MCT-3

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	222262-01 EA ASSY.PCB,MCT-3	#	NP	99	P * P * P	1
0002	222367 EA CASE, TOP, MCT-3	#	NP	DC	P * P * P	1
0003	222368 EA CASE, BOTTOM, MCT-3	#	NP	DC	P * P * P	1
0004	222369 EA KEYPAD, SILICONE, MCT-3	#	NP	DC	P * P * P	1
0005	214829 EA CLIP, VISOR, MULTICODE	A	99	CG	P * P C P	1
0006	202847 EA LABEL, WARR/DATE, 1 YEAR, GRAY	C	99	CE	X * P C P	1
0990	222260 EA ASSY, MECH, MCT-3	#	NP	DC	P * P * P	0
0991	222266 EA TEST PROC, MCT-3	#	NP	DC	P * P * P	0
				REFERENCE ONLY		
				REFERENCE ONLY		

NOTES:

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S I N G L E L E V E L B I L L S O F

PARENT PART: 222262-01

ASSY.PCB,MCT-3

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	222261 EA PCB,MCT-3	#	NP	DB	P * P * P	1
0002	222269-01 EA ASSY,UP,MCT-3	#	NP	99	P * P * P	1
0003	103877-001 EA SWITCH,PUSH,MOM,260GF,6X6MM,UL	E	99	EG	P * P C P	3
0004	203583 EA BATT,3V,LITHIUM,2032	C	99	AH	P * P C P	2
0005	216377 EA CONTACT,BATTERY,2032	A	NP	BT1,2	DC	2
0006	205011-006 EA DIODE,BAV70,DUAL,COM CATH,SOT-23	B	99	EX	P * P C P	1
0007	205011-001 EA DIODE,MMBD914,SWITCH,SOT-23	D	99	BF	P 1 P C P	1
0008	210643 EA LED,RED,T-1,RED TRANS,20 DEG	B	99	CM	P * P C P	1
0009	203687 EA XSTR,NPN,MMBTH10,SOT-23	A	99	EN	P * P C P	1
0010	101779 EA INDCTR,2.2UH,ENCAP,10%	C	99	BP	P 1 P C P	1
0011	213786 EA CAP,CER,C,25V104P,Y5V,+80-20%,0603	C	NP	AO	P * P * P	1
0012	213392 EA CAP,CER,C,50V6R8P,NPO,.25PF,0603	C	NP	AO	P * P * P	2
0013	213418 EA CAP,CER,C,50V1R0P,NPO,0603,+/- .25PF	A	NP	AO	P * P * P	1
0014	213391 EA CAP,CER,C,50V102P,X7R,10%,0603	B	NP	AO	P * P * P	1
0015	203691-001 EA CAP,VAR,2.5-10PF,SMD	F	99	AR	P * P C P	1
0016	213383-475 EA RES,CHIP,1/16W,4.7M,0603,5%	A	NP	DQ	P * P * P	3
0017	213459 EA RES,CHIP,1/16W,100K,0603,1%	A	NP	DQ	P * P * P	3
0018	213383-102 EA RES,CHIP,1/16W,1.0K,0603,5%	A	NP	DQ	P * P * P	1
0019	213383-153 EA RES,CHIP,1/16W,15K,0603,5%	A	NP	DQ	P * P * P	2
0020	213383-121 EA RES,CHIP,1/16W,120,0603,5%	A	NP	DQ	P * P * P	1
0021	205144-000 EA RES,CHIP,1/8W,ZERO OHM,1206	A	NP	DQ	P * P * P	1
0022	104242 FT WIRE,22,SLD,BARE,BULK	E	99	ES	X 1 P C P	0
0023	200691 EA LABEL,DATE CODE,PRODUCTION,.5"X.2"	B	99	CE	X 1 S C P	1
0990	222262 EA ASSY,PCB,MCT-3	#	NP	DC	P * P * P	0

REFERENCE ONLY

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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: 222262-01

ASSY.PCB,MCT-3

UM

ERC: # SRCE CODE: P TYPE: * ABC

ITEM NO	COMPONENT PART NUMBER/ UM PART DESCRIPTION-REMARKS	ERC	PRODUCT CODE	COMM S T S A P CODE C Y P B L	EXTENDED QTY PER
0991	222265 EA SCHEM,MCT-3	#	NP	DC P * P * P REFERENCE ONLY	0
0992	222266 EA TEST PROC,MCT-3	#	NP	DC P * P * P REFERENCE ONLY	0

NOTES:

END OF REPORT