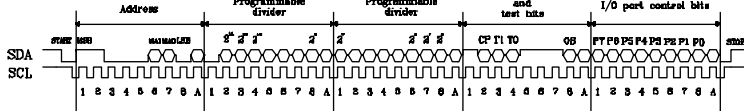
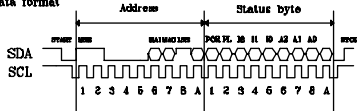


SPECIFICATION	
MODULATOR	
1. SCOPE	
THIS SPECIFICATION OUTLINES THE PERTINENT ELECTRICAL REQUIREMENTS OF THE RF OUTPUT MODULATOR WHICH CONVERTS THE FM VIDEO AND FM AUDIO SIGNAL INTO THE RF SIGNAL FOR TELEVISION STANDARD TRANSMISSION SYSTEM	
2. GENERAL SPECIFICATIONS	
2-1. OUTPUT FREQUENCY	2300.0~2500.0MHz(I ² C PLL CONTROLLER FROM OUTSIDE)
2-2.	
2-3. SUPPLY VOLTAGE	12V+/-0.2V
2-4. CONSUMPTION CURRENT	140+/-20mA
2-5. OPERATION AND STORAGE	TEMPERATURE 0-50° C
CONDITIONS FOR GUARANTEE	HUMIDITY 85% OR LESS
2-6.	
2-7.	
3. TEST CONDITIONS	
3-1. TESTING AMBIENT CONDITIONS	
DEFINED AS TEMPERATURE OF 25+/-2° C AND HUMIDITY OF 65+/-5% RH.	
NOTE : THAT TEMPERATURES OF 5-30° C AND HUMIDITY OF 45-85%RH	
MAY BE REGARDED AS STANDARD.	
3-2.	
3-3. UNIT SETTING CONDITIONS	
(1) PICTURE--	10 STEP WAVE SIGNAL 1.5Vp-p(82ΩLoad).
(2) AUDIO --	1.0Vp-p OF SINE WAVE 1KHZ.
COMTECH TECHNOLOGY CO., LTD	
FM2400TSIM(1/4)	

SPECIFICATION						
MODULATOR						
4. ELECTRICAL PERFORMANCE						
4-1. VIDEO SYSTEM CHARACTERISTICS						
	PARAMETER	SPECIFICATION			UNIT	REMARK
		MIN	TYP	MAX		
4-1-1	INPUT IMPEDANCE		1.3		K	MEASURE AT 0.5-5MHZ
4-1-2	INPUT SIGNAL LEVEL		1		V _{p-p}	LOAD OF 82Ω CONNECTED NEGATIVE SYNCHRONOUS
4-1-3	MODULATION FP 2460MHz (SINE WAVE 300KHz 1VP-P)	2	3	4	MHz	SUPERIMPOSED SINUOUS WAVE (3.58MHZ) IS 20% OF THE STEP INPUT
4-1-5	DIFFERENTIAL GAIN	-8		8	%	LEVEL. MEASURE UNDER THE APL OF 10-90% DIFFERENTIAL GAIN OF DEMULATOR UNIT IS TO BE COMPENSATED.
4-1-6	DIFFERENTIAL PHASE	-8		8	DEG	-DITTO-
4-1-7	S/N	45			dB	MEASURE MITH RESPECT TO STANDARD DEMODULA- TOR OUTPUT.
4-1-8	OUT LEVEL TAPER		4	6	dB	Fp 2300~2400MHz
4-2. AUDIO SYSTEM CHARACTERISTICS						
4-2-1	INPUT IMPEDANCE		1.4		KΩ	MEASURE AT 0.1-10KHZ
4-2-2	MODULATION	35	40	45	KHZ	
4-2-3	DISTORTION FACTOR			3	%	AUDIO INPUT SIGNAL: 1.0V _{p-p} 1KHZ MODULA- TION 50% (SINE WAVE) VIDEO INPUT SIGNAL: ALL BLACK (SYNC.ONLY) USE STANDARD DEMODU- LATOR OF INTER-CARRIER SYSTEM. DE-EMPHASIS(50 usec) IS ON.
4-2-4	S/N	40			dB	THE SAME AS 4-2-3
COMTECH TECHNOLOGY CO., LTD FM2400TSIM (2/4)						

SPECIFICATION						
MODULATOR						
4-3. OUTPUT SYSTEM CHARACTERISTICS						
	PARAMETER	SPECIFICATION			UNIT	REMARK
		MIN	TYP	MAX		
4-3-1	VIDEO CARRIER FREQUENCY	-50	fp	+50	KHZ	TEST AT 25°C TEMPERATURE AND 65%RH OF HUMIDITY. fp:2300~2500MHz fs1 6.0MHz fs2 6.5MHz *OUTPUT CHANNEL
4-3-2	VIDEO OUTPUT LEVEL	5	9	13	dBm	
4-3-3	AUDIO OUTPUT LEVEL DIFFERENCE(P/S RATIO)	22	27	32	dB	
4-3-4	AUDIO CARRIER FREQUENCY	-8	fs	+8	KHZ	INPUT SIGNAL : NONE THE MEASUREMENT IS TAKEN AFTER 30 sec. FROM THE POWER-ON.
4-3-5	AUDIO MODULATOR fs1 fs2	35	50	65	KHZ	MEASUREMENT DIFFERENCE VIDEO OF CARRIER
		35	50	65		
4-3-6	OUT-BAND SPURIOUS	50	55		dB	FREQUENCY OUTPUT LEVEL FOR 2.3~2.5GHz EXCEPT TO fp. fp+/-fs AGAINST VIDEO CARRIER OUTPUT LEVEL.
4-3-7	IN-BAND SPURIOUS WITHIN BANDWIDTH	60			dB	
4-3-8	OUTPUT IMPEDANCE		75		Ω	UNBALANCED.
5-1 PLL SECTION CHARACTERISTICS						
COMTECH TECHNOLOGY CO., LTD FM2400TSIM (3/4)						

SPECIFICATION											
BS TUNER											
NO.	ITEM	SPECIFICATION									NOTES
5-2.	IIC BUS (1) SDA,SCL INPUT VOLTAGE	UNDER STANDARD TEST CONDITION									V
		CONDITION			MIN.	TYP.	MAX.				
		HIGH VOLTAGE			3		5				
		LOW VOLTAGE			0		1.5				
	(2) ADDRESS	C2 (ON WRITE DATA FORMAT)									
(3) SDA SCL INPUT IMPEDANCE	SDA/SCL ARE IN THE HIGH IMPEDANCE AND THERE SHOULD BE NO RELIABILITY PROBLEM WITH 5V CONTINUALLY ON THE SDA/SCL, IF POWER SUPPLY IS SWITCHED OFF.										
(4) DATA FORMAT											
MSBLSB											
ADDRESS		1	1	0	0	0	MA1	MA0	0	A	BYTE1
PROGRAMMABLE DIVIDER		0	14	13	12	11	10	9	8	A	BYTE2
PROGRAMMABLE DIVIDER		2	7	6	5	4	3	2	1	0	BYTE3
CHARGE PUMP AND TEST BITS		1	(0) CP	T1	T0	1	1	1	(0) OS	A	BYTE4
I/O PORT CONTROL BITS		P7	P6	P5	P4	P3	P2	P1	P0	A	BYTE5
TABLE 1 WRITE DATA FORMAT (MSB IS TRANSMITTED FIRST)											
ADDRESS		1	1	0	0	0	MA1	MA0	1	A	BYTE1
STATUS BYTE		POR	FL	I2	I1	I0	A2	A1	A0	A	BYTE2
TABLE 2 READ DATA FORMAT											
A:ACKNOWLEDGE BIT. MA1,MA0:VOLTAGE ADDRESS BITS. CP:CHARGE PUMP CURRENT SELECT. T1:TEST MODE SELECTION. T0:CHARGE PUMP DISABLE. OS:VARACTOR DRIVE OUTPUT DISABLE SWITCH. P7,P6,P5,P4,P3,P2,P1,P0:CONTROL OUTPUT STATES. POR:POWER ON RESET INDICATOR FL:PHASE LOCK DETECT FLAG. I2,I1,I0:DIGITAL INFORMATION FROM PORTS P7,P5 AND P4. A2,A1,A0:5 LEVEL ADC DATA FROM P6.											
Write data format 											
Read data format 											
COMTECH TECHNOLOGY CO., LTD											
FM2400TSIM(4/4)											

