

NISHA INTERFACE

GENERAL DESCRIPTION:

PIN	SIGNAL NAME	I/O	FUNCTION
1	INDEX	0	THIS SIGNAL INDICATES THE BEGINNING OF SERVO SECTOR AND END OF DATA SECTOR 31. ONE PER REVOLUTION (2749RPM +- 1.5%).
3	SECTOR	0	THIS SIGNAL INDICATES THE BEGINNING OF DATA SECTORS. TOTAL DATA SECTORS IS 32 STARTING FROM SECTOR 0 TO 31. EACH SECTOR HAS 620+- 16 BYTES OR 661+- 17 US.
5	RWCLK	0	READ/WRITE CLOCK IS THE SIGNAL TO SYNCHRONIZE THE DRIVE READ/WRITE DATA. CLOCK FREQUENCY IS 7.5 MHZ +- 40%. WITH 50+- 10 % DUTY CYCLE.
7	/RDATA	0	NRZ READ DATA FROM DRIVE IS SYNCHRONIZED TO THE RISING EDGE OF THE READ/WRITE CLOCK (RWCLK). READ DATA CAN CHANGE AT A MIN. OF 40NS AND AT A MAX. OF 90NS FROM THE RISING EDGE OF THE RWCLK.
9	WDATA	I	NRZ WRITE DATA FROM CONTROLLER IS SYNCHRONIZED TO THE RISING EDGE OF THE RWCLK. WRITE DATA CAN CHANGE AT A MIN. OF 40NS AND AT A MAX. OF 90NS FROM THE RISING EDGE OF THE RWCLK.
11	/WTGT	I	WRITE GATE FROM CONTROLLER, WHICH INDICATES THAT WRITE DATA IS SHIFTING FROM CONTROLLER TO DRIVE.
12	HS0	I	HEAD SELECT 0 INDICATES THE SELECTION OF HEAD 0. HEAD SWITCHING RECOVERY TIME IS 1 US.
13	RDGT	I	READ GATE FROM CONTROLLER, WHICH MUST BE TURNED ON AT GLITCH FREE DATA SYNCHRONIZATION AREA. READ DATA WILL BE AVAILABLE AFTER YCO IS LOCKED ON THE DATA SYNCHRONIZATION BYTES (00). YCO LOCK ON TIME IS 12 BYTES MAXIMUM.
14	HS1	I	HEAD SELECT 1, A RESERVED PIN FOR FUTURE ADDITON OF READ WRITE HEADS.
15	SERYOUT	0	SERVO SERIAL DATA OUT IS AN OUTPUT SIGNAL THAT SHIFTS SERVO STATUS FROM DRIVE TO CONTROLLER AT A MAX. RATE OF 58.6 K BITS/SEC.
16	/RWI	I	REDUCED WRITE CURRENT IS A SIGNAL THAT INDICATES TO DRIVE THAT LESS WRITE CURRENT IS REQUIRED AT THE INSIDE TRACKS WHICH HAYE MUCH HIGHER FLUX CHANGE PER INCH (FCI).
17	SERYOIN	I	SERVO SERIAL DATA IN IS AN INPUT SIGNAL THAT SHIFTS SERVO COMMANDS FROM CONTROLLER TO DRIVE AT A MAX. RATE OF 58.6 K BITS/SEC.
18	/SERVORST	I	SERVO RESET IS AN INPUT SIGNAL THAT RESET THE SERVO CONTROL FUNCTIONS.

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19	SIORDY	0	SERYO INPUT/OUTPUT READY IS AN INDICATION FROM DRIVE TO CONTROLLER THAT SERYO COMMUNICATION IS READY.
21	SERYORDY	0	SERYO READY IS AN OUTPUT SIGNAL THAT DRIVE INDICATES TO CONTROLLER THAT READ/WRITE HEAD IS ON TRACK AND IS READY FOR READ/WRITE DATA TRANSFER.
23	SERYOERR	0	SERYO ERROR IS AN OUTPUT SIGNAL THAT DRIVE INDICATES TO CONTROLLER THAT SERYO COMMUNICATION HAS AN ERROR OR SERYO TRACK FOLLOWING HAS AN ERROR.
	<i>-write safe</i>		
8	+5Y	I	POWER SUPPLY INPUT
10	+5Y	I	POWER SUPPLY INPUT
2	GND	I	GROUND
4	GND	I	GROUND
6	GND	I	GROUND
20	+12Y	I	POWER SUPPLY INPUT
22	+12Y	I	POWER SUPPLY INPUT
24	-12Y	I	NEGATIVE POWER SUPPLY INPUT
25	MOTOR 12Y	I	POWER SUPPLY TO MOTOR (ISOLATED FROM +12Y IN NISHA)
26	MOTOR GND	I	MOTOR GROUND (ISOLATED FROM GND IN NISHA)

NISHA INTERFACE

DC ELECTRICAL CHARACTERISTICS (TEMPERATURE=10 TO 60 C)

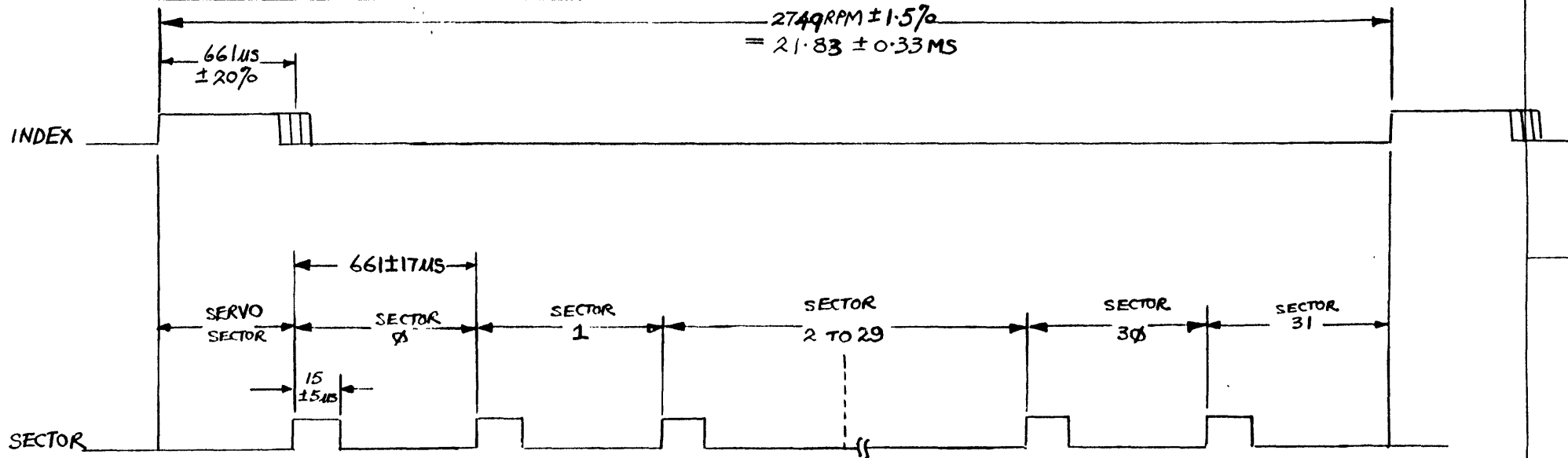
PARAMETER		MIN	TYP	MAX	UNIT	COMMENTS
YIL	INPUT LOW VOLTAGE	-0.3		0.8	Y	IOL MAX=- 400UA
YIH	INPUT HIGH VOLTAGE	2.0		VCC	Y	IOH MAX=+ 40 UA
YOL	OUTPUT LOW VOLTAGE			0.4	Y	3 LSTTL=+ 1.2 MA
YOH	OUTPUT HIGH VOLTAGE	2.4			Y	3 LSTTL=- 120UA
5V	POWER SUPPLY VOLTAGE	4.75	5.00	5.25	Y	1A MAX
+12V	POWER SUPPLY VOLTAGE	12.0		13.2	Y	
-12V	NEG POWER SUPPLY VOLTAGE	-12.0		-13.2	Y	
MOTOR +12V	MOTOR SUPPLY VOLTAGE	12.0		13.2	Y	



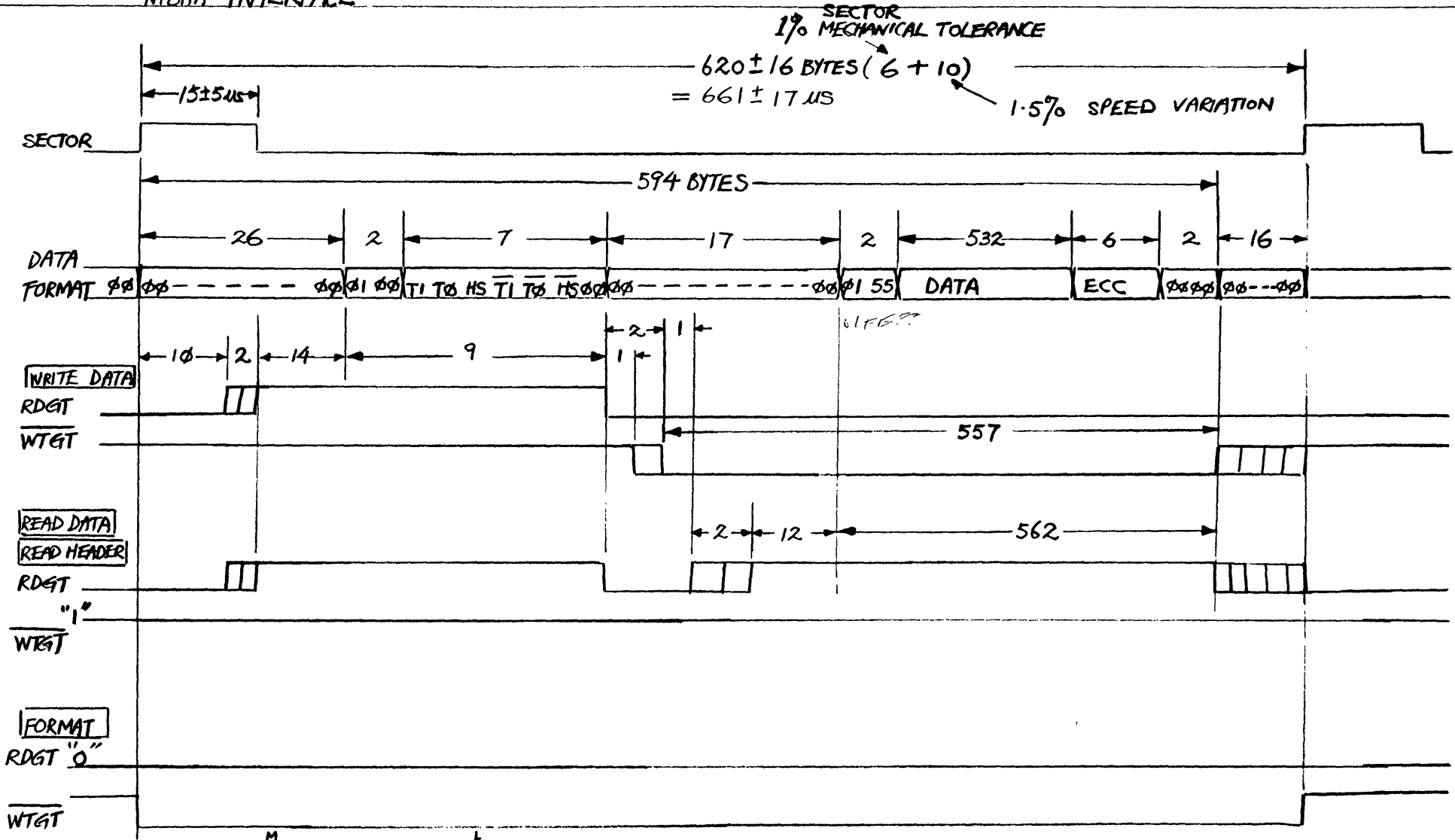
42 381 50 SHEETS 5 SQUARE
42 382 100 SHEETS 5 SQUARE
42 383 200 SHEETS 5 SQUARE

NISHA INTERFACE

AC ELECTRICAL CHARACTERISTICS



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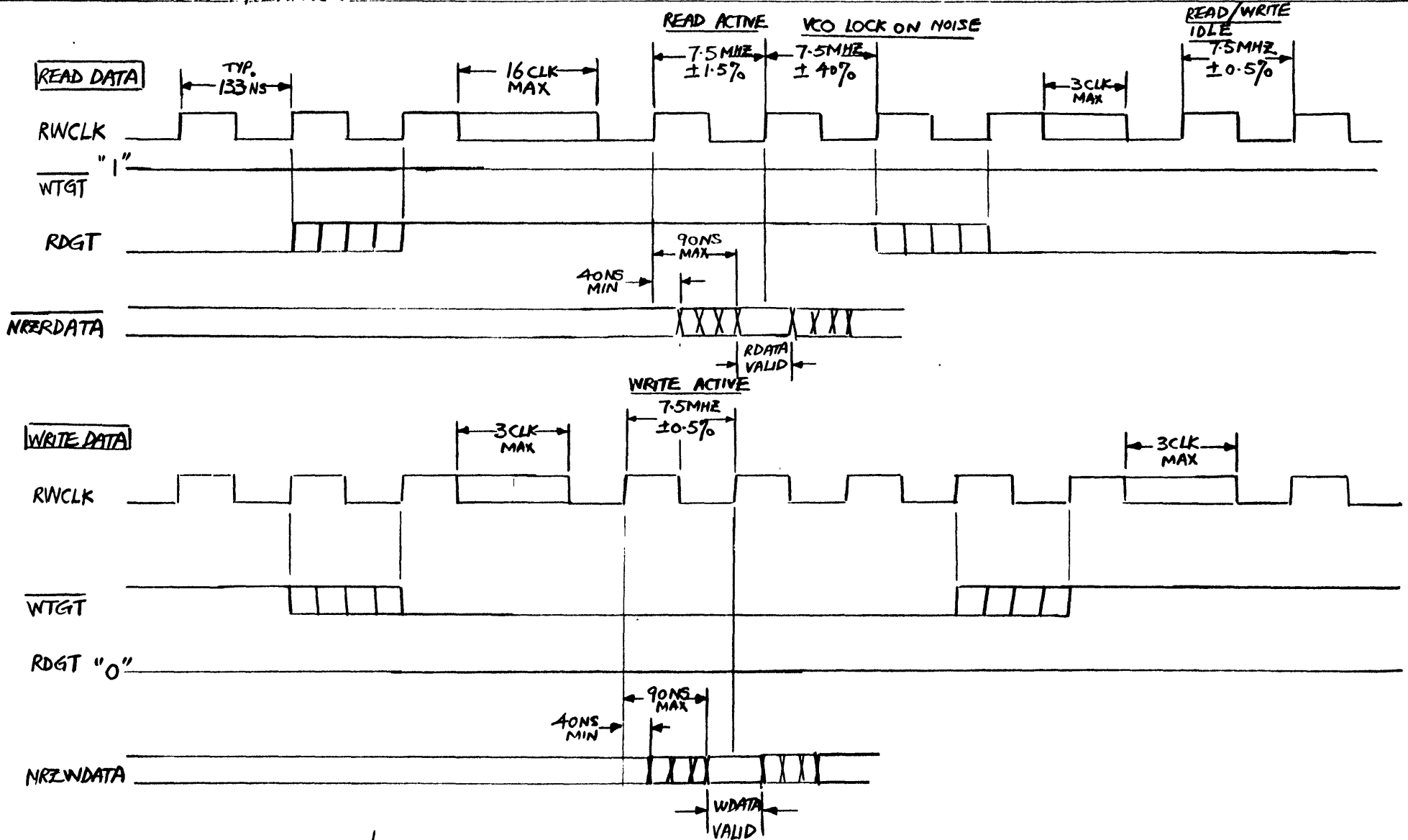


NOTE :

	M S B	7	6	5	4	3	2	1	φ	L S B
T1	=	TRACK BYTE 1								
Tφ	=	TRACK BYTE φ								
HS	=	HEAD	SECTOR (64 MAX)							
XX	=	INVERSE OF XX								



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NOTE 1: $RWCLK \text{ PERIOD} = \frac{1}{7.5 \text{ MHz}} = 133.33 \text{ NS}$ (WITH $50 \pm 10\%$ DUTY CYCLE)

NOTE 2: HEAD SWITCHING RECOVERY TIME = 1 μ S

NOTE 3: WRITE TO READ RECOVERY TIME = $80 \pm 20 \mu$ S