

GCR Codeword Table (used to convert nibbles to GCR codewords)

0:	96,97,9A,9B,9D,9E,9F,A6
8:	A7,AB,AC,AD,AE,AF,B2,B3
10:	B4,B5,B6,B7,B9,BA,BB,BC
18:	BD,BE,BF,CB,CD,CE,CF,D3
20:	D6,D7,D9,DA,DB,DC,DD,DE
28:	DF,E5,E6,E7,E9,EA,EB,EC
30:	ED,EE,EF,F2,F3,F4,F5,F6
38:	F7,F9,FA,FB,FC,FD,FE,FF

Speed Control

Disk speed is controlled via a PWM signal from the host computer. The duty cycle of this signal is set by software in the host computer; the appropriate value is determined by measuring the length of pulses on the tach sense line from the disk drive. The disk speed should be checked when a diskette is first inserted and periodically thereafter to allow adjustment for thermal drifting of disk speed. The speed should also be checked at the position on the diskette which corresponds to the actual speed group to compensate for torque loading of the motor.

Disk Storage Calculations

The next page shows how the track classes and speeds were determined. The following formulas were used:

track density:	135.4666 tracks/inch
	0.1875 mm track to track
track 0 radius:	39.5 mm
max data density:	8750 fci = 344.4882 fcm
sync overhead:	6%
bytes/block	733.5
data speed:	500 kbits/sec
bytes:	$(733.5 * \text{blocks}) * 1.06$
rpm:	$60 \text{ sec/min} * 500\text{kbits/sec} / (\text{bytes} * 8\text{bits/byte})$
fci:	$\text{bytes} * 8\text{bits/byte} / (2 * \text{Pi} * \text{Radius in inches})$

The actual RPM values for Macintosh are adjusted for a bit rate of 489.6 kbits/sec and are slightly lower (e.g., 394 rpm instead of 402 rpm on the outside tracks).

 apple computer inc.

SIZE
A

DRAWING NUMBER
699-0285-A

SCALE:

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