# DEVELOPMENT STANDARD

QIC-118
Revision B
14 Jun 95

MAGNETIC HEAD FOR USE WITH
QIC-80-MC RECORDING FORMAT

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# QIC DEVELOPMENT STANDARDS

# REVISION HISTORY

| Revision Level | Detail | Revision Date |
|---|---|---|
| B (1) | Change in specification and tolerance to the width of the | 14 June 1995 |
| | write core. | |
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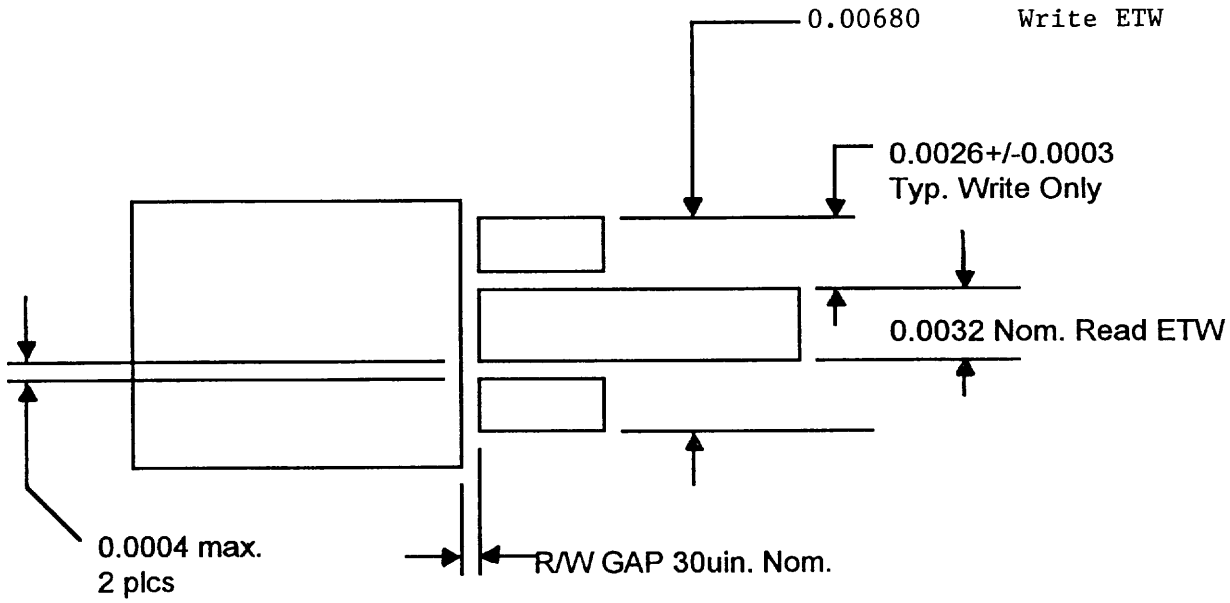
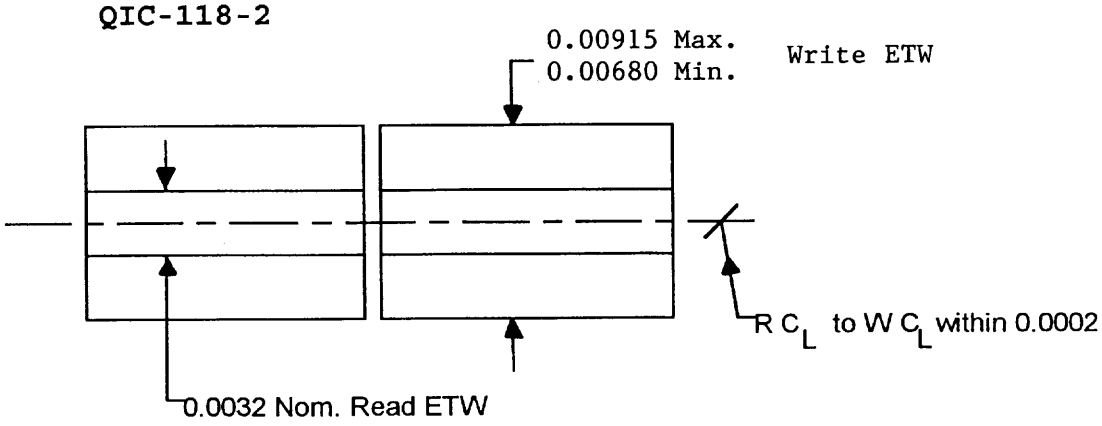
## 1.0 PHYSICAL FORMAT

### 1.1 QIC format, Wide-Write/Narrow-Read (Optional)
QIC-118-1




### 1.2 QIC format, TBD
QIC-118-2



## 2.0 ELECTRICAL FORMAT

### 2.1 Recording Density

The maximum nominal recording density shall be 14,700 flux reversals per inch (FRPI) or 579 flux reversals per millimeter (FRPMM) with MFM code.

### 2.2 Read Head Output

The output of the read head @ 14,700 FRPI and 34 inches per second tape speed shall be 1.O mV minimum to 3.0 mV maximum.

### 2.3 Read Head Load

The read head load shall be 5K ohms paralleled by 15 pF for all measurements.

### 2.4 Write Saturation Current (Isat)

The write saturation current (Isat) at 14,700 FRPI is defined as the current value at the first 95% of maximum read output.

### 2.5 Write Current (Iw)

The write current (Iw) is set at 130% of the write saturation current.

### 2.6 Resolution

Resolution is determined as the ratio:

$$\frac{\text{Eo @ 14,700 FRPI}}{\text{Eo@ 7,350 FRPI}} \times 100\%$$

The resolution shall be in the range of 70% to 90% at a tape speed of 34 inches per second.

### 2.7 Overwrite

When the longest wavelength of a cartridge recorded with a QIC-40 head (5,000 FRPI) is overwritten by the shortest wavelength of a QIC-80 drive (14,700 FRPI) the remaining 5,000 FRPI signal shall measure no more than -30 dB of the nominal 14,700 FRPI read signal level when measured with a spectrum analyzer having a sampling bandwidth of less than 5% of the overall system bandwidth shall be determined by the shortest recorded wavelength (14,700 FRPI at 34 IPS tape speed).

2.8 PeakShift

The peakshift shall be less than 12.5% when measured in accordance with paragraph 3.11 of the QIC-80 drive specification.

2.9 Output Asymmetry

The output asymmetry is measured by first DC erasing a track (reference paragraph 2.10), then recording with 7,350 FRPI. Measure the read back waveform asymmetry [(time from positive peak to negative peak) - (time from negative peak to positive peak)]. This value at 34 IPS tape speed shall not exceed 150 nanoseconds.

2.10 Write Gap Erase Function

A DC current equal to Iw (reference paragraph 2.4) in either leg of the write winding shall overwrite a 5,000 FRPI signal recorded with a QIC-40 head, such that the remnant 5,000 FRPI signal is a maximum of -30dB of the nominal output at 14,7000 FRPI. This current shall not cause any permanent remnant magnetic effects to alter any other head operating parameter.

2.11 Read CrossTalk Due to Adiacent Track

The read crosstalk component, coupled into the read section of the core from either optional closure section of the core, shall not exceed 6%. This is measured by recording a degaussed tape with one track at 7,350 FRPI and then positioning the head such that the only portion of the head that is physically over the receded track is one optional closure section. The read signal in this condition shall not exceed 6% of the nominal read signal when reading this track with the full width of the core.

2.12 Railroad Tracks (Optional)

Railroad tracks are defined as the longitudinal unrecorded areas within a recorded track due to the non-magnetic space separating the read section of the core from the two closure sections of the write core. Each of these two non-magnetic spaces within the head shall not exceed 0.0004 inches in width (mechanical measurement).

2.13 Written Track Width

0.00915" maximum
0.00680" minimum