**SWIM3 driver determines drive kind based on the following four sense lines (FindDriveKind):**

| | HEAD SEL | CA2 | CA1 | CA0 | 400K | 800K | HD20 | SUPERDRIVE | TYPHOON 2.88 MB | NODRIVE |
|---|---|---|---|---|---|---|---|---|---|---|
| REVISED | 1 | 1 | 1 | 1 | 0 | 1 | 1 | x | 0 | 1 |
| /DrvIn | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| /SingleSide | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 |
| SuperDrive | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |

**Apple Drive status requests:**

| HEAD SEL | CA2 | CA1 | CA0 | Status bit name (Apple source) | Description |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | rDirPrevAdr | Step direction: 0 – inwards (toward higher-numbered tracks) 1 – outward (toward lower-numbered tracks) |
| 0 | 0 | 0 | 1 | rStepOffAdr | Apparently reflects disk stepping status: 0 – head is stepping between tracks, 1 – stepping completed (idle) It looks like the SWIM3 ASIC monitors this bit during stepping. ***Apple Swim3 driver uses this bit for selecting head 0 during GCR formatiing  (!!!)*** ***Maybe that's how it works in older drives*** |
| 0 | 0 | 1 | 0 | rMotorOffAdr | Spindle motor status: 0 – on, 1 – off |
| 0 | 0 | 1 | 1 | rEjectOnAdr | Eject latch status: 0 – latch is off (eject button hadn't been pushed), 1 – latch is on (eject button has been pushed) Eject latch will be reset by the wNoDiskInPlAdr control command |
| 0 | 1 | 0 | 0 | rRdData0Adr | Reading from this register selects head 0 (lower head) |
| 0 | 1 | 0 | 1 | rMFMDriveAdr | 0 – not a superdrive 1 – superdrive or no drive |
| 0 | 1 | 1 | 0 | rDoubleSidedAdr | 0 – single-sided drive 1 – double-sided drive |
| 0 | 1 | 1 | 1 | rNoDriveAdr   vs /DrvIn | Drive exists register: 0 – drive exists, 1 – drive doesn't exist |

| | | | | | |
|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | rNoDiskInPlAdr | 0 – disk in drive<br>1 – drive is empty |
| 1 | 0 | 0 | 1 | rNoWrProtectAdr | 0 – disk is write protected<br>1 – disk is write-enabled |
| 1 | 0 | 1 | 0 | rNotTrack0Adr | 0 – head is at track 0<br>1 – head is at some other track |
| 1 | 0 | 1 | 1 | rNoTachPulseAdr<br>rIndexPulseAdr | GCR: Tachometer. 60 pulses per disk revolution<br>MFM: 0 – no index pulse, 1 – index pulse |
| 1 | 1 | 0 | 0 | rRdData1Adr | Reading from this register selects head 1 (upper head) |
| 1 | 1 | 0 | 1 | rMFMModeOnAdr<br>rGCRModeOffAdr | Current drive mode: 0 – GCR, 1 – MFM |
| 1 | 1 | 1 | 0 | rNotReadyAdr | 0 – drive is ready<br>1 – drive is not ready |
| 1 | 1 | 1 | 1 | rNotRevisedAdr<br>r1MegMediaAdr<br>REVISED | 0 – high density media (1 or 2 MB) in drive<br>1 – low density media in drive<br>REVISED bit seems to be always set in 800K and HD20 drives<br>***Apple Swim3 driver uses this bit for selecting head 1 during GCR formatting (!!!)***<br>***Maybe that's how it works in older drives*** |

**Apple Drive control commands:**

| HEAD SEL | CA1 | CA0 | Command name (Apple source) | Description |
|---|---|---|---|---|
| 0 | 0 | 0 | CA2 = 0: wDirNextAdr<br>CA2 = 1: wDirPrevAdr | Step direction: 0 – inwards (toward higher-numbered tracks)<br>1 – outward (toward lower-numbered tracks) |
| 0 | 0 | 1 | CA2 = 0: wStepOnAdr<br>CA2 = 1: wStepOffAdr | Placing wStepOnAdr on the phase lines and pulsing ph3 will cause a step in current direction; wStepOffAdr seems to be unused |
| 0 | 1 | 0 | CA2 = 0: wMotorOnAdr<br>CA2 = 1: wMotorOffAdr | Turn spindle motor on<br>or off. |
| 0 | 1 | 1 | CA2 = 0: wEjectOffAdr | Issuing the wEjectOnAdr command will eject the disk. This takes |

| | | | | |
|---|---|---|---|---|
| | | | CA2 = 1: wEjectOnAdr | about 1.5 seconds to complete. |
| 1 | 0 | 0 | CA2 = 0: wDiskInPlAdr<br>CA2 = 1: wNoDiskInPlAdr | wNoDiskInPlAdr will reset the eject latch. WdiskInPlAdr seems to be unused/unimplemented. |
| 1 | 0 | 1 | CA2 = 0: wMFMModeOnAdr<br>CA2 = 0: wGCRModeOffAdr<br>CA2 = 1: wMFMModeOffAdr<br>CA2 = 1: wGCRModeOnAdr | Switch drive mode:<br>CA2 = 0 → MFM<br>CA2 = 1 → GCR |
| 1 | 1 | 0 | undefined | |
| 1 | 1 | 1 | undefined | |