

# SDrive communication protocol v01

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## Command frame:

00	Device ID
01	Command
02	Auxiliary byte 1
03	Auxiliary byte 2
04	Checksum

## Internal SDrive control commands:

### Device ID:

\$71 .. \$74	SDrive device number #1 to #4
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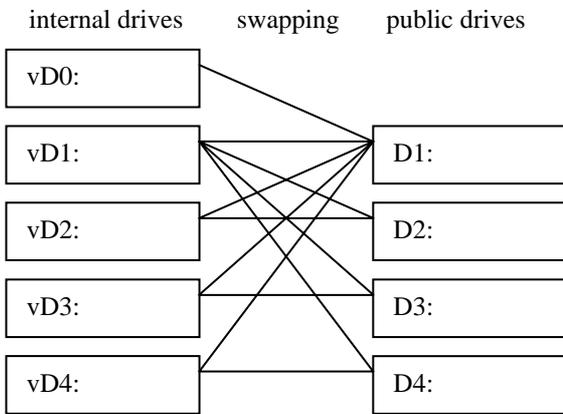
### Commands table:

Cmd	Aux1	Aux2	>Send <Ret	Description
\$50	xl	xh	>xs	Write sector xhxl to internal drive vD0:, sector size xs.
\$52	xl	xh	<xs	Read sector xhxl from internal drive vD0:, sector size xs.
\$53	-	-	<4	Get status of internal drive vD0:.
\$C0	xl	xh	<241	Get 20 filenames (8.3 + attribute) from xhxl and 1st char of filename 21 (nonzero if exists). (20*(8+3+1)+1)
\$C1	nn	-	-	Set fastsio pokey divisor nn (\$00 .. \$F9). nn= \$00..pokey_div 0 (127842 bps) \$01..pokey_div 1 (111862 bps) ... \$06..pokey_div 6 = default (68838 bps) ... \$28..pokey_div 40 = standard only (19040 bps) (also answers NACK for \$3F command) ... \$F9..pokey_div 249 (3496 bps)
\$C2	nn	-	-	Set bootloader relocation \$0700+\$nn00.
\$DA	-	-	<28	Get system values (13 global + 15 vDisk).
\$DB	-	-	<1	Get vDisk drive flag.
\$DC	xl	xh	<4	Calculate SD sector number for FATcluster xhxl.
\$DD	-	-	>4	Set SD sector number (send 4 bytes as dword parameter).
\$DE	-	-	<512	Read SD sector.
\$DF	-	-	>512	Write SD sector.
\$E0	n	-	<n	Get first n-bytes of SDrive hardware identification string. ("SDriveVV YYYYMMDD...")
\$E1	n	-	-	Init SDrive. n=0 .. Full init (same as after card removal&insertion). n!=0 .. Set SDRIVE.ATR to vD0: without change of actual drive.
\$E2	n	-	-	Deactivate drive vDn:.
\$E3	n	-	<14	Set current directory to that of drive vDn: and get filename. 8+3+attribute+fileindex (11+1+2)
\$E4	xl	xh	<12	Get filename xhxl. 8.3 + attribute (11+1)
\$E5	xl	xh	<50	Get filename xhxl and properties. 8+3+attribute+size/date/time+textinfo(1234567890 YYYY-MM-DD HH:MM:SS) (11+1+8+30)
\$E6	xl	xh	<256	Get LongFileName xhxl.
\$E7	xl	xh	<128	Get first 128 chars of LongFileName xhxl.
\$E8	xl	xh	<64	Get first 64 chars of LongFileName xhxl.
\$E9	xl	xh	<32	Get first 32 chars of LongFileName xhxl.
\$EA	-	-	<2	Get number of entries in current directory (word).
\$EB	n	-	<n*12	Get path of current directory. n=1 .. 20 (maximal number of updir parts) (/DIRECTOREXT/./DIRECTOREXT) Note: If there is more updir parts to reach the rootdir, first char is "?".
\$EC	n	m	>11	Find filename 8.3. Search pattern has 11 chars, zero characters are ignored. m!=0 => Set file or directory to vDn: n=\$00..\$04 for vD0:..vD4: or n=\$0f for change of current directory (same as commands \$F0..\$F4 or \$FF)
\$ED	xl	xh	<14	Get finding results from xhxl fileindex in current directory, get filename 8+3+attribute+fileindex (11+1+2) Note: Avoid prior use of GetLongFileName and/or GetPath which destroy the search pattern.

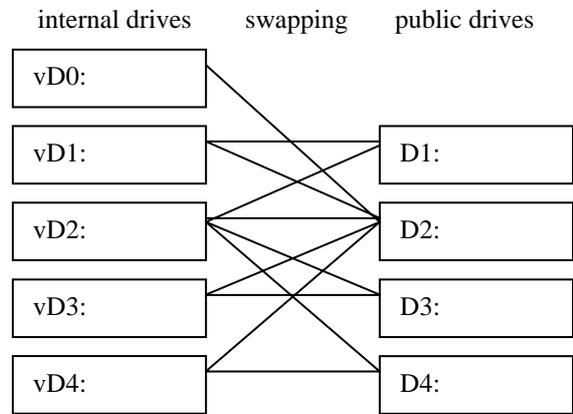
\$EE	n	-	-	Swap vDn: (n=0..4) with D{SDriveDeviceNumber#}: n>=5 .. Set default (all devices with relevant numbers).
\$EF	n	m	<n	Get SDrive parameters (n=len, m=from). 0:actual_drive_number 1:fastsio_active 2:fastsio_pokeydiv 3:bootloader_relocation 4-7:sdreadwritesectornumber
\$F0	xl	xh	-	Set file xhxl in current directory to device vD0:
\$F1	xl	xh	-	Set file xhxl in current directory to device vD1:
\$F2	xl	xh	-	Set file xhxl in current directory to device vD2:
\$F3	xl	xh	-	Set file xhxl in current directory to device vD3:
\$F4	xl	xh	-	Set file xhxl in current directory to device vD4:
\$FD	n	-	- / <14	Change current directory to parent (cd ..). n!=0 => Get dirname. 8+3+attribute+fileindex (11+1+2)
\$FE	-	-	-	Change current directory to rootdir (cd /).
\$FF	xl	xh	-	Change current directory to xhxl directory (fileindex).

**Drive swapping scheme:**

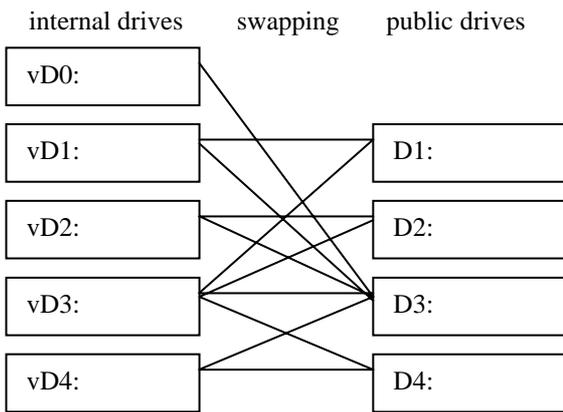
SDrive number #1



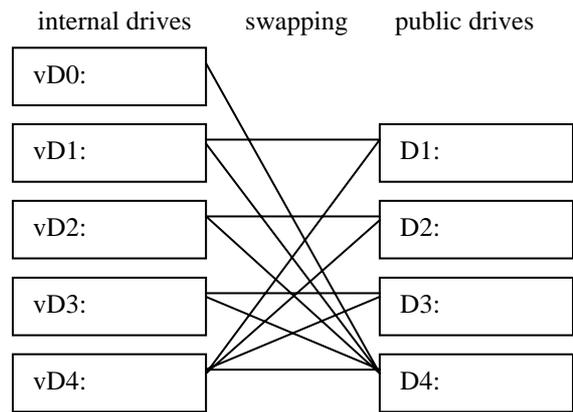
SDrive number #2



SDrive number #3



SDrive number #4



## Public Dn: devices commands:

### Device ID:

\$31 .. \$34	Device D1: to D4:
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### Commands table:

Cmd	Aux1	Aux2	>Send <Ret	Description
\$21	-	-	<xs	Format disk.
\$22	-	-	<xs	Format disk – medium density.
\$3F	-	-	<1	Read speed index (pokey divisor value).
\$4E	-	-	<12	Read cfg (PERCOM). Note: Last 3 bytes contain device identification "SDr".
\$4F	-	-	>12	Write cfg (PERCOM).
\$50	xl	xh	>xs	Write sector xhxl, sector size xs.
\$52	xl	xh	<xs	Read sector xhxl, sector size xs.
\$53	-	-	<4	Get drive status.
\$57	xl	xh	>xs	Write sector xhxl, sector size xs. (No verification, kept for compatibility reasons.)