FSUIPC Offsets (all)

> This List may be out of date, please check for the latest version in the Documentation Download Section.

Offset	Size	Use
0020	4	Ground altitude in Metres x 256. (see also offset 0B4C)
0024	Var	Zero terminated string giving the Start-Up situation or flight name, including the path from the FS folder (usually PILOTS\ …)
012C	Varies	Zero terminated string giving the name of the current Log book, with the default being called just 'logbook' instead of the true filename. *(This applies to FS2002, but hasn't been verified on the others)*
0238	1	Hour of local time in FS (0–23)
0239	1	Minute of local time in FS (0–59)
023A	1	Second of time in FS (0–59)
023B	1	Hour of Zulu time in FS (also known at UTC or GMT)
023C	1	Minute of Zulu time in FS2
023E	2	Day number in Year in FS (counting from 1)
0240	2	Year in FS
0246	2	Local time offset from Zulu (minutes). +ve = behind Zulu, –ve = ahead

0248	2	Season: 0=Winter, 1=Spring, 2=Summer, 3=Fall
0262	2	Pause control (write 1 to pause, 0 to un-pause).
0264	2	Pause indicator (0=Not paused, 1=Paused)
0274	2	Frame rate is given by 32768/this value
0278	2	Auto-co-ordination ("auto-rudder"), 1=on, 0=off
0280	1	Lights: this operates the NAV lights, plus, on FS2000, the TAXI, PANEL and WING lights. For separate switches on FS2000 (and CFS2?) see offset 0D0C
0281	1	Beacon and Strobe lights. For separate switches on FS2000 (and CFS2?(see offset 0D0C
028C	1	Landing lights. (See also offset 0D0C on FS2000, and maybe CFS2).
029C	1	Pitot Heat switch (0=off, 1=on)
02A0	2	Magnetic variation (signed, –ve = West). For degrees *360/65536. Convert True headings to Magnetic by *subtracting* this value, Magnetic headings to True by *adding* this value.
02B2	2	Zoom factor: FS2002 only, and read-only. 64=x1, 128=x2 et cetera
02B4	4	GS: Ground Speed, as 65536*metres/sec. Not updated in Slew mode!
02B8	4	TAS: True Air Speed, as knots * 128
02BC	4	IAS: Indicated Air Speed, as knots * 128
02C4	4	Barber pole airspeed, as knots * 128
02C8	4	Vertical speed, signed, as 256 * metres/sec. For the more usual ft/min you need to apply the conversion *60*3.28084/256
02CC	8	Whiskey Compass, degrees in 'double' floating point format (FLOAT64)

02D4	2	(FS2004 only) ADF2 Frequency: main 3 digits, in Binary Coded Decimal. See also offset 02D6. A frequency of 1234.5 will have 0x0234 here and 0x0105 in offset 02D6.
02D6	2	(FS2004 only) Extended ADF2 frequency. The high byte contains the 1000's digit and the low byte the fraction, so, for a frequency of 1234.5 this offset will contain 0x0105.
02D8	2	(FS2004 only) ADF2: relative bearing to NDB (*360/65536 for degrees, –ve left, +ve right)
02DC	6	(FS2004 only) ADF2 IDENTITY (string supplied: 6 bytes including zero terminator)
02E2	25	(FS2004 only) ADF2 name (string supplied: 25 bytes including zero terminator)
02FB	1	(FS2004 only) ADF1 morse ID sound (1 = on, 0 = off), read for state, write to control
0310	8	FS2002 timer (double float, elapsed seconds including fractions, incremented each 'tick' – i.e. $1/18^{th}$ sec). This runs all the time. It is used for all sorts of things, including the elapsed time between key/mouse-originated controls, to determine whether to accelerate inc/dec types. See also 0368,
032C	2	"Plane is in fuel box" flag (same as Scenery BGL variable 0288)
0330	2	Altimeter pressure setting ("Kollsman" window). As millibars (hectoPascals) * 16
0338	2	Airframe can suffer damage if stressed (0=no, 1=yes)
033A	2	Manual fuel tank selection if set (appears to be standard anyway in FS2000)
033C	2	Engine stops when out of fuel if set
033E	2	Jet engine can flameout if set (appears not an option in FS2000?)
0340	2	Manual magneto controls if set (appears to be standard anyway in FS2000)
0342	2	Manual mixture control if set
034C	2	ADF1 Frequency: main 3 digits, in Binary Coded Decimal. See also offset 0356. A frequency of 1234.5 will have 0x0234 here and 0x0105 in offset 0356.(See also offset 0389)

034E	2	COM1 frequency, 4 digits in BCD format. A frequency of 123.45 is represented by 0x2345. The leading 1 is assumed.
0350	2	NAV1 frequency, 4 digits in BCD format. A frequency of 113.45 is represented by 0x1345. The leading 1 is assumed. (See also offset 0388)
0352	2	NAV2 frequency, 4 digits in BCD format. A frequency of 113.45 is represented by 0x1345. The leading 1 is assumed. (See also offset 0388)
0354	2	Transponder setting, 4 digits in BCD format: 0x1200 means 1200 on the dials.
0356	2	Extended ADF1 frequency. The high byte contains the 1000's digit and the low byte the fraction, so, for a frequency of 1234.5 this offset will contain 0x0105.
0358	2	COM frequency settable in 25KHz increments if true (else 50KHz)
035C	2	ADF frequency settable in 100Hz increments if true (else 1KHz)
0366	2	Aircraft on ground flag (0=airborne, 1=on ground). Not updated in Slew mode.
0368	4	Control timer 2 (see also 0310), a 32-bit 'float'.
036C	1	Stall warning (0=no, 1=stall)
036D	1	Overspeed warning (0=no, 1=overspeed)
036E	1	Turn co-ordinator ball position (slip and skid). –128 is extreme left, +127 is extreme right, 0 is balanced.
0372	2	Reliability % (0–100). (Not sure if this is effective in FS2000)
0374	2	NAV1 or NAV2 select (256=NAV1, 512=NAV2)
0378	2	DME1 or DME2 select (1=DME1, 2=DME2)
037C	2	Turn Rate (for turn coordinator). 0=level, –512=2min Left, +512=2min Right

0388	1	NAV radio activation. If you change the NAV1 or NAV2 frequencies, writing 2 here makes FS re-scan for VORs to receive on those frequencies.
0389	1	ADF radio activation. If you change the ADF frequency, writing 2 here makes FS re-scan for an NDB to receive on that frequency. (Although FS2000 seems to do this quite soon in any case)
038A	1	COM radio activation. If you change the COM radio, writing a 1 here makes FS scan for ATIS broadcasts to receive on that frequency.
04B0	48	Area reserved by FSUIPC. (See details for user accessible parts earlier in this document). [FS2000 & CFS2 only]. The more useful ones follow:
04B4	2	>fs2k adventure weather: This provides the temperature_surface_alt in metres. This is used to provide the METAR reporting station altitude so that the cloud bases can be converted to AGL.
04BA	2	>fs2k adventure weather: This provides the wind_surf_turb which is used to provide the surface wind's upper gust speed in knots, with zero indicating no gusts.
04BC	2	>fs2k adventure weather: This provides the barometric_drift variable, which is used to provide the *difference* between the current aircraft position QNH (which may be in transition), and the METAR reported QNH as set by the weather control program. Adding this 'drift' value to the pressure will give the correct value for ATIS reports
04C0	2	>fs2k adventure weather: This provides the fsuipc_visibility in statute miles * 100
04C2	2	>fs2k adventure weather: This provides the cloud_thunder_base in metres AMSL
04C4	2	>fs2k adventure weather: This provides the cloud_low_base in metres AMSL
04C6	2	>fs2k adventure weather: This provides the cloud_high_base in metres AMSL
04C8	2	Dew point as degrees C *256, for the surface temperature layer, FS2k/CFS2 read only
04CB	1	Precipitation rate, 0–5, FS2k/CFS2 read only. *Note that in FS2004, rate 0 = light drizzle. Type=0 is no rain/snow*
04CC	1	Precipitation type, 0=none, 1=rain, 2=snow, FS2k/CFS2 read only.

04CD	1	>fs2k adventure weather: This provides the cloud_thunder_cover 0–8
04CE	1	>fs2k adventure weather: This provides the cloud_low_cover 0–8
04CF	1	>fs2k adventure weather: This provides the cloud_high_cover 0–8
04D2	2	Precipitation control: write hi-byte=type 0–2 (see above), low byte=rate 0–5. Write 0xFFFF to release control back to FS2k/CFS2.
04D4	2	Dew point control: degrees C * 256. Sets surface layer dewpoint only, FSUIPC does rest. Write 0x8000 to release control back to FS2k/CFS2.
04D8	2	Surface layer wind speed, in knots (FS2k/CFS2). This may be different to the current wind speed at the aircraft—see offset 0E90. This also provides wind_surf_vel for FS2k Adventures.
04DA	2	Surface layer wind direction, *360/65536 to get degrees MAGNETIC (FS2k/CFS2). This may be different to the current wind direction at the aircraft—see offset 0E92. This also provides wind_surf_dir for FS2k Adventures.
04E0	88	Area reserved for Project Magenta
0560	8	Latitude of aircraft in FS units.To convert to Degrees:*If your compiler supports long long (64-bit) integers* then use such a variable to simply copy this 64-bit value into a double floating point variable and multiply by 90.0/(10001750.0 * 65536.0 * 65536.0). *Otherwise* you will have to handle the high 32-bits and the low 32-bits separately, combining them into one double floating point value (say dHi). To do, copy the high part (the 32-bit int at 0564) to one double and the low part (the 32-bit unsigned int at 0560) to another (say dLo). Remember that the low part is only *part* of a bigger number, so doesn't have a sign of its own. Divide dLo by (65536.0 * 65536.0) to give it its proper magnitude compared to the high part, then either add it to or subtract it from dHi according to whether dHi is positive or negative. This preserves the integrity of the original positive or negative number. Finally multiply the result by 90.0/10001750.0 to get degrees. Either way, a negative result is South, positive North. [Can be written to move aircraft: in FS2002 only in slew or pause states]

0568	8	Longitude of aircraft in FS format.To convert to Degrees:*If your compiler supports long long (64-bit) integers* then use such a variable to simply copy this 64-bit value into a double floating point variable and multiply by 360.0/(65536.0 * 65536.0 * 65536.0 * 65536.0). *Otherwise* you will have to handle the high 32-bits and the low 32-bits separately, combining them into one double floating point value (say dHi). To do, copy the high part (the 32-bit int at 056C) to one double and the low part (the 32-bit unsigned int at 0568) to another (say dLo). Remember that the low part is only *part* of a bigger number, so doesn't have a sign of its own. Divide dLo by (65536.0 * 65536.0) to give it its proper magnitude compared to the high part, then either add it to or subtract it from dHi according to whether dHi is positive or negative. This preserves the integrity of the original positive or negative number. Finally multiply the result by 360.0/(65536.0 * 65536.0) to get degrees. Either way, a negative result is West, positive East. If you did it all unsigned then values over 180.0 represent West longitudes of (360.0 – the value). [Can be written to move aircraft: in FS2002 only in slew or pause states]
0570	8	Altitude, in metres and fractional metres. The units are in the high 32-bit integer (at 0574) and the fractional part is in the low 32-bit integer (at 0570). [Can be written to move aircraft: in FS2002 only in slew or pause states]
0578	4	Pitch, *360/(65536*65536) for degrees. 0=level, –ve=pitch up, +ve=pitch down[Can be set in slew or pause states]
057C	4	Bank, *360/(65536*65536) for degrees. 0=level, –ve=bank right, +ve=bank left[Can be set in slew or pause states]
0580	4	Heading, *360/(65536*65536) for degrees TRUE.[Can be set in slew or pause states]
05B0	24	The viewpoint Latitude (8 bytes), Longitude (8 bytes) and Altitude (8 bytes) in the same format as 0560–0577 above. This is read only and seems to relate to the position of the viewer whether in cockpit, tower or spot views.
05D2	2	Current view direction, *360/65536 for degrees TRUE. Read only.
05D4	2	Smoke system available if True

05D8	2	Smoke system enable: write 1 to switch on, 0 to switch off (see also 05D4)
05DC	2	Slew mode (indicator and control), 0=off, 1=on. (See 05DE also).
05DE	2	Slew control: write non-zero value here *at same time* as changing 05DC above, and the Slew mode change includes the swapping of the assigned joystick axes. [ignored in FS2004 – the axes are swapped in any case. See offset 310B for control of axis connection in slew mode]
05E4	2	Slew roll rate: 0=static, –ve = right roll, +ve=left roll, rate is such that 192 gives a complete 360 roll in about one minute.
05E6	2	Slew yaw rate: 0=heading constant, –ve = right, +ve=left, rate is such that 24 gives a complete 360 turn in about one minute.
05E8	2	Slew vertical rate: 16384=no change, 16385–32767 increasing rate down, 16383–0 increasing rate up. One keypress on Q (up) or A (down) makes a change of 512 units.
05EB	1	Slew forward/backward movement: +ve=backward, –ve=forward. Values 1–127 give slow to fast slewing (–128 is the fastest forward slew).
05ED	1	Slew left/right movement: +ve=right, –ve=left. Values 1–127 give slow to fast sideways slewing (–128 is the fastest leftward slew).
05EE	2	Slew pitch rate: 16384=no change, <16384=pitch up, >16384 pitch down, range 0–32767.
05F4	2	Slew mode display: 0=off, 1=coords/hdg/spd, 2=fps, 3=all
05FC	2	Flight mode display: 0=off, 1=coords/hdg/spd, 2=fps, 3=all
0609	1	Engine type: 0=Piston (and some FS2004 Helos), 1=Jet, 2=Sailplane, 3=Helo, 4=Rocket, 5=Turboprop
060C	2	Gear type. 0=non-retractable standard, 1=retractable, 2=slides
060E	2	Retractable gear flag (0 if not, 1 if retractable)
0612	2	Display IAS if TRUE, TAS otherwise

0628	4	Instant replay flag & control, 1=on, 0=off. Can write to turn on and off whilst there is still time to play (see offset 062C)
062C	4	Instant replay: time left to run, in seconds. Whilst this is non-zero, the flag in offset 0628 controls the playback.
0700	96	Area used for operating, controlling and configuring the facilities in FSUIPC for feedback flight control (bank, pitch, speed). For full details of this please see the separate TXT documentation in the SDK.
0760	4?	Video recording flag, 1=on, 0=off. [*Not verified, maybe FS2002 only*]
0764	4	Autopilot available
0768	4	Autopilot V/S hold available
076C	4	Autothrottle airspeed hold available
0770	4	Autothrottle mach hold available
0774	4	Autothrottle RPM hold available
0778	4	Flaps available
077C	4	Stall horn available
0780	4	Engine mixture available
0784	4	Carb heat available
0788	4	Pitot heat available
078C	4	Spoiler available
0790	4	Aircraft is tail dragger
0794	4	Strobes available

0798	4	Prop type available
079C	4	Toe brakes available
07A0	4	NAV1 available
07A4	4	NAV2 available
07A8	4	Marker indicators available
07AC	4	NAV1 OBS available
07B0	4	NAV2 OBS available
07B4	4	VOR2 gauge available
07B8	4	Gyro drift available
07BC	4	Autopilot Master switch
07C0	4	Autopilot wing leveller
07C4	4	Autopilot NAV1 lock
07C8	4	Autopilot heading lock
07CC	2	Autopilot heading value, as degrees*65536/360
07D0	4	Autopilot altitude lock
07D4	4	Autopilot altitude value, as metres*65536
07D8	4	Autopilot attitude hold
07DC	4	Autopilot airspeed hold
07E2	2	Autopilot airspeed value, in knots

07E4	4	Autopilot mach hold
07E8	4	Autopilot mach value, as Mach*65536
07EC	4	Autopilot vertical speed hold [*Not connected in FS2002/4*]
07F2	2	Autopilot vertical speed value, as ft/min
07F4	4	Autopilot RPM hold
07FA	2	Autopilot RPM value ??
07FC	4	Autopilot GlideSlope holdN.B. In at least FS2002 and FS2004 (and maybe FS2000 as well) setting this also sets 0800, approach hold. To clear both you need to write 0 to them in the same FSUIPC process call, as if they are separated by an FS frame, an interlock stops them clearing.
0800	4	Autopilot Approach hold.See the note above, for offset 07FC.
0804	4	Autopilot Back course hold. The note for offset 07FC may also apply here.
0808	4	Yaw damper
080C	4	Autothrottle TOGA (take off power)
0810	4	Autothrottle Arm
0814	4	Flight analysis mode (0=0ff, 1=Landing, 2=Course tracking, 3=Manoevres)
0830	4	Action on crash (0=ignore, 1=reset, 2=graph). [*Graph mode not applicable to FS2002*]
0840	2	Crashed flag
0842	2	Vertical speed in metres per minute, but with –ve for UP, +ve for DOWN. Multiply by 3.28084 and reverse the sign for the normal fpm measure. This works even in slew mode (except in FS2002).
0848	2	Off-runway crash detection

084A	2	Can collide with dynamic scenery
085C	4	VOR1 Latitude in FS form. Convert to degrees by *90/10001750.If NAV1 is tuned to an ILS this gives the glideslope transmitter Latitude.
0864	4	VOR1 Longitude in FS form. Convert to degrees by *360/(65536*65536).If NAV1 is tuned to an ILS this gives the glideslope transmitter Longitude.
086C	4	VOR1 Elevation in metres. If NAV1 is tuned to an ILS this gives the glideslope transmitter Elevation.
0870	2	ILS localiser inverse runway heading if VOR1 is ILS. Convert to degrees by *360/65536. This is 180 degrees different to the direction of flight to follow the localiser.
0872	2	ILS glideslope inclination if VOR1 is ILS. Convert to degrees by *360/65536
0874	4	VOR1 Latitude, as in 085C above, except when NAV1 is tuned to an ILS, in which case this gives the localiser Latitude. [FS2002 and later]
0878	4	[FS2002/4 only]: VOR1 Longitude, as in 0864 above, except when NAV1 is tuned to an ILS, in which case this gives the localiser Longitude.
087C	4	[FS2002/4 only]: VOR1 Elevation, as in 086C above, except when NAV1 is tuned to an ILS, in which case this gives the localiser Elevation.
0880	4	[FS2002/4 only]: DME Latitude when available separately. Same units as in 085C above.
0884	4	[FS2002/4 only]: DME Longitude when available separately. Same units as in 0864 above.
0888	1	Active engine (select) flags. Bit 0 = Engine 1 selected … Bit 3 = Engine 4 selected. See notes against offset 0892.
088C	152	ENGINE 1 values, as detailed below
088C	2	Engine 1 Throttle lever, –4096 to +16384
088E	2	Engine 1 Prop lever, –4096 to +16384

0890	2	Engine 1 Mixture lever, 0 – 16384
0892	2	Engine 1 Starter switch position (Magnetos), Jet/turbojet: 0=Off, 1=Start, 2=GenProp: 0=Off, 1=right, 2=Left, 3=Both, 4=Start Notes (for FS2K/CFS2): + Don't forget to switch fuel on to start (mixture to max). list: Ignore">+ For FS2k type starting you need to set the 'Start' value here and monitor the combustion flag (below). When that is set, change the starter switch to another position (Both or Gen). FS98 models start immediately but you should still adopt the same procedure. list: Ignore">+ The Engine addressed by writes to this and the equivalent Engine 2–4 offsets will become *selected* (see 0888 above). It needs to stay selected during engine start, which means you can only start engines in sequence, not together. The original selection is restored automatically, however—but only when the starter is 'released' by writing a non-start value here. list: Ignore">+ FS98 prop planes transposed to FS2000 have misbehaving Magneto/Starter switch controls (whether FSUIPC is installed or not). You can start engines okay, but don't expect to be able to select the Magnetos reliably.
0894	2	Engine 1 combustion flag (TRUE if engine firing)
0896	2	Engine 1 Jet N2 as 0 – 16384 (100%). This also appears to be the Turbine RPM % for proper helo models.
0898	2	Engine 1 Jet N1 as 0 – 16384 (100%), or Prop RPM (derive RPM by multiplying this value by the RPM Scaler (see 08C8) and dividing by 65536). Note that Prop RPM is signed and negative for counter-rotating propellers.
08A0	2	Engine 1 Fuel Flow PPH SSL (pounds per hour, standardised to sea level). Don't know units, but it seems to match some gauges if divided by 128. Not maintained in all cases.
08B2	2	Engine 1 Anti-Ice or Carb Heat switch (1=On)
08B8	2	Engine 1 Oil temperature, 16384 = 140 C.

08BA	2	Engine 1 Oil pressure, 16384 = 55 psi. Not that in some FS2000 aircraft (the B777) this can exceed the 16-bit capacity of this location. FSUIPC limits it to fit, i.e.65535 = 220 psi
08BC	2	Engine 1 Pressure Ratio (where calculated): 16384 = 1.60
08BE	2	Engine 1 EGT, 16384 = 860 C. [*Note that for Props this value is not actually correct. For FS2004 at least you will get the correct value from 3B70. In FS2004 the value here has been derived by FSUIPC to be compatible with FS2002 et cetera*]
08C0	2	Engine 1 Manifold Pressure: Inches Hg * 1024
08C8	2	Engine 1 RPM Scaler: For Props, use this to calculate RPM – see offset 0898
08D0	4	Engine 1 Oil Quantity: 16384 = 100% On FS2000 FSUIPC usually has to derive this from a leakage value as it isn't provided directly.
08D4	4	Engine 1 Vibration: 16384 = 5.0. This is a relative measure of amplitude from the sensors on the engine which when too high is an indication of a problem. The value at which you should be concerned varies according to aircraft and engine.
08D8	4	Engine 1 Hydraulic pressure: appears to be 4*psi
08DC	4	Engine 1 Hydraulic quantity: 16384 = 100%
08E8	8	Engine 1 CHT, degrees F in double floating point (FLOAT64)
08F0	4	Engine 1 Turbine temperature: degree C *16384, valid for FS2004 helo models
08F4	4	Engine 1 Torque % (16384 = 100%), valid for FS2004 helo models
08F8	4	Engine 1 Fuel pressure, psf (i.e. psi*144): not all aircraft files provide this, valid for FS2004 helo models.
08FC	2?	Engine 1 electrical load, possibly valid for FS2004 helo models.
0900	4	Engine 1 Transmission oil pressure (psi * 16384): for helos

0904	4	Engine 1 Transmission oil temperature (degrees C * 16384): for helos
0908	4	Engine 1 Rotor RPM % (16384=100%): for helos
0918	8	Engine 1 Fuel Flow Pounds per Hour, as floating point double (FLOAT64)
0924	152	ENGINE 2 values, as detailed below
0924	2	Engine 2 Throttle lever, –4096 to +16384
0926	2	Engine 2 Prop lever, –4096 to +16384
0928	2	Engine 2 Mixture lever, 0 – 16384
092A	2	Engine 2 Starter switch position (Magnetos),Jet/turbo: 0=Off, 1=Start, 2=Gen; Prop: 0=Off, 1=right, 2=Left, 3=Both, 4=Start(See Notes in Engine 1 entry)
092C	2	Engine 2 combustion flag (TRUE if engine firing)
092E	2	Engine 2 Jet N2 as 0 – 16384 (100%)
0930	2	Engine 2 Jet N1 as 0 – 16384 (100%), or Prop RPM (derive RPM by multiplying this value by the RPM Scaler (see 08C8) and dividing by 65536). Note that Prop RPM is signed and negative for counter-rotating propellers.
0938	2	Engine 2 Fuel Flow PPH SSL (pounds per hour, standardised to sea level). Don’t know units, but it seems to match some gauges if divided by 128. Not maintained in all cases.
094A	2	Engine 2 Anti-Ice or Carb Heat switch (1=On)
0950	2	Engine 2 Oil temperature, 16384 = 140 C.
0952	2	Engine 2 Oil pressure, 16384 = 55 psi. Not that in some FS2000 aircraft (the B777) this can exceed the 16-bit capacity of this location. FSUIPC limits it to fit, i.e.65535 = 220 psi
0954	2	Engine 2 Pressure Ratio (where calculated): 16384 = 1.60

0956	2	Engine 2 EGT, 16384 = 860 C. [*Note that for Props this value is not actually correct. For FS2004 at least you will get the correct value from 3AB0. In FS2004 the value here has been derived by FSUIPC to be compatible with FS2002 et cetera*]
0958	2	Engine 2 Manifold Pressure: Inches Hg * 1024
0960	2	Engine 2 RPM Scaler: For Props, use this to calculate RPM – see offset 0898
0968	4	Engine 2 Oil Quantity: 16384 = 100% On FS2000 FSUIPC usually has to derive this from a leakage value as it isn't provided directly.
096C	4	Engine 2 Vibration: 16384 = 5.0. This is a relative measure of amplitude from the sensors on the engine which when too high is an indication of a problem. The value at which you should be concerned varies according to aircraft and engine.
0970	4	Engine 2 Hydraulic pressure: appears to be 4*psi
0974	4	Engine 2 Hydraulic quantity: 16384 = 100%
0980	8	Engine 2 CHT, degrees F in double floating point (FLOAT64)
0988	4	Engine 2 Turbine temperature: degree C *16384
098C	4	Engine 2 Torque % (16384 = 100%)
0990	4	Engine 2 Fuel pressure, psf (i.e. psi*144): not all aircraft files provide this.
0998	4	Engine 2 Transmission pressure (psi * 16384): for helos
099C	4	Engine 2 Transmission temperature (degrees C * 16384): for helos
09A0	4	Engine 2 Rotor RPM % (16384=100%): for helos
09B0	8	Engine 2 Fuel Flow Pounds per Hour, as floating point double (FLOAT64)
09BC	152	ENGINE 3 values, as detailed below

09BC	2	Engine 3 Throttle lever, –4096 to +16384
09BE	2	Engine 3 Prop lever, –4096 to +16384
09C0	2	Engine 3 Mixture lever, 0 – 16384
09C2	2	Engine 3 Starter switch position (Magnetos),Jet/turbo: 0=Off, 1=Start, 2=Gen; Prop: 0=Off, 1=right, 2=Left, 3=Both, 4=Start(see Notes in Engine 1 entry)
09C4	2	Engine 3 combustion flag (TRUE if engine firing)
09C6	2	Engine 3 Jet N2 as 0 – 16384 (100%)
09C8	2	Engine 3 Jet N1 as 0 – 16384 (100%), or Prop RPM (derive RPM by multiplying this value by the RPM Scaler (see 08C8) and dividing by 65536). Note that Prop RPM is signed and negative for counter-rotating propellers.
09D0	2	Engine 3 Fuel Flow PPH SSL (pounds per hour, standardised to sea level). Don't know units, but it seems to match some gauges if divided by 128. Not maintained in all cases.
09E2	2	Engine 3 Anti-Ice or Carb Heat switch (1=On)
09E8	2	Engine 3 Oil temperature, 16384 = 140 C.
09EA	2	Engine 3 Oil pressure, 16384 = 55 psi. Not that in some FS2000 aircraft (the B777) this can exceed the 16-bit capacity of this location. FSUIPC limits it to fit, i.e.65535 = 220 psi
09EC	2	Engine 3 Pressure Ratio (where calculated): 16384 = 1.60
09EE	2	Engine 3 EGT, 16384 = 860 C. [*Note that for Props this value is not actually correct. For FS2004 at least you will get the correct value from 39F0. In FS2004 the value here has been derived by FSUIPC to be compatible with FS2002 et cetera*]
09F0	2	Engine 3 Manifold Pressure: Inches Hg * 1024
09F8	2	Engine 3 RPM Scaler: For Props, use this to calculate RPM – see offset 0898

0A00	4	Engine 3 Oil Quantity: 16384 = 100% On FS2000 FSUIPC usually has to derive this from a leakage value as it isn't provided directly.
0A04	4	Engine 3 Vibration: 16384 = 5.0. This is a relative measure of amplitude from the sensors on the engine which when too high is an indication of a problem. The value at which you should be concerned varies according to aircraft and engine.
0A08	4	Engine 3 Hydraulic pressure: appears to be 4*psi
0A0C	4	Engine 3 Hydraulic quantity: 16384 = 100%
0A18	8	Engine 3 CHT, degrees F in double floating point (FLOAT64)
0A20	4	Engine 3 Turbine temperature: degree C *16384
0A24	4	Engine 3 Torque % (16384 = 100%)
0A28	4	Engine 3 Fuel pressure, psf (i.e. psi*144): not all aircraft files provide this.
0A30	4	Engine 3 Transmission pressure (psi * 16384): for helos
0A34	4	Engine 3 Transmission temperature (degrees C * 16384): for helos
0A38	4	Engine 3 Rotor RPM % (16384=100%): for helos
0A48	8	Engine 3 Fuel Flow Pounds per Hour, as floating point double (FLOAT64)
0A54	152	ENGINE 4 values, as detailed below
0A54	2	Engine 4 Throttle lever, –4096 to +16384
0A56	2	Engine 4 Prop lever, –4096 to +16384
0A58	2	Engine 4 Mixture lever, 0 – 16384
0A5A	2	Engine 4 Starter switch position (Magnetos),Jet/turbo: 0=Off, 1=Start, 2=Gen; Prop: 0=Off, 1=right, 2=Left, 3=Both, 4=Start(see Notes in Engine 1 entry)

0A5C	2	Engine 4 combustion flag (TRUE if engine firing)
0A5E	2	Engine 4 Jet N2 as 0 – 16384 (100%)
0A60	2	Engine 4 Jet N1 as 0 – 16384 (100%), or Prop RPM (derive RPM by multiplying this value by the RPM Scaler (see 08C8) and dividing by 65536). Note that Prop RPM is signed and negative for counter-rotating propellers.
0A68	2	Engine 4 Fuel Flow PPH SSL (pounds per hour, standardised to sea level). Don't know units, but it seems to match some gauges if divided by 128. Not maintained in all cases.
0A7A	2	Engine 4 Anti-Ice or Carb Heat switch (1=On)
0A80	2	Engine 4 Oil temperature, 16384 = 140 C.
0A82	2	Engine 4 Oil pressure, 16384 = 55 psi. Not that in some FS2000 aircraft (the B777) this can exceed the 16-bit capacity of this location. FSUIPC limits it to fit, i.e.65535 = 220 psi
0A84	2	Engine 4 Pressure Ratio (where calculated): 16384 = 1.60
0A86	2	Engine 4 EGT, 16384 = 860 C. [*Note that for Props this value is not actually correct. For FS2004 at least you will get the correct value from 3930. In FS2004 the value here has been derived by FSUIPC to be compatible with FS2002 et cetera*]
0A88	2	Engine 4 Manifold Pressure: Inches Hg * 1024
0A90	2	Engine 4 RPM Scaler: For Props, use this to calculate RPM – see offset 0898
0A98	4	Engine 4 Oil Quantity: 16384 = 100% On FS2000 FSUIPC usually has to derive this from a leakage value as it isn't provided directly.
0A9C	4	Engine 4 Vibration: 16384 = 5.0. This is a relative measure of amplitude from the sensors on the engine which when too high is an indication of a problem. The value at which you should be concerned varies according to aircraft and engine.
0AA0	4	Engine 4 Hydraulic pressure: appears to be 4*psi

0AA4	4	Engine 4 Hydraulic quantity: 16384 = 100%
0AB0	8	Engine 4 CHT, degrees F in double floating point (FLOAT64)
0AB8	4	Engine 4 Turbine temperature: degree C *16384
0ABC	4	Engine 4 Torque % (16384 = 100%)
0AC0	4	Engine 4 Fuel pressure, psf (i.e. psi*144): not all aircraft files provide this.
0AC8	4	Engine 4 Transmission pressure (psi * 16384): for helos
0ACC	4	Engine 4 Transmission temperature (degrees C * 16384): for helos
0AD0	4	Engine 4 Rotor RPM % (16384=100%): for helos
0AE0	8	Engine 4 Fuel Flow Pounds per Hour, as floating point double (FLOAT64)
0AEC	2	Number of Engines
0AF0	2	Propeller pitch control: 0=Fixed, 1=Auto, 2=Manual. On FS2004 this is 0=fixed pitch, 1=constant speed, no differentiation between auto and manual.
0AF4	2	Fuel weight as pounds per gallon * 256
0AF8	2	Fuel tank selector: 0=None, 1=All, 2=Left, 3=Right, 4=LeftAux, 5=RightAux, 6=Centre, 7=Centre2, 8=Centre3, 9=External1, 10=External2, 11=Right Tip, 12=Left Tip, 14=Crossfeed LtoR, 15=Crossfeed RtoL.According to information received, in FS2002 all of these except the wing tip tanks can be selected and drained.
0B00	2	Throttle lower limit, 16384=100%. (e.g. for aircraft with reverse thrust this is normally: –4096 indicating 25% in reverse)
0B0C	4	Mach Max Operating speed *20480
0B18	8	Gyro suction in inches of mercury (Hg), floating point double (FLOAT64)

0B20	2	Sound control: 0 to switch off, 1 to switch on
0B24	2	Sound flag: reads 0 is off, 1 if on
0B4C	2	Ground altitude (metres). See 0020 for more accuracy.
0B60	2	Scenery complexity level, 0 – 4 in FS98, 0 – 5 in FS2000 on
0B64	1	Fail mode: 0 ok, ADF inoperable = 1 (both ADFs on FS2004)
0B65	1	Fail mode: 0 ok, ASI inoperable = 1
0B66	1	Fail mode: 0 ok, Altimeter inoperable = 1
0B67	1	Fail mode: 0 ok, Attitude Indicator inoperable = 1
0B68	1	Fail mode: 0 ok, COM1 radio inoperable = 1See also 3BD6 (FS2002/FS2004)
0B69	1	Fail mode: 0 ok, Mag Compass inoperable = 1
0B6A	1	Fail mode: 0 ok, Electrics inoperable = 1
0B6B	1	Fail mode: 0 ok, Engine inoperable = 1, extended for FS2000/CFS2 for up to 4 individual engines: bit 0 =Engine 1 … bit 3= Engine 4. (*but note that this may not work for FS98 aircraft transposed into FS2k/CFS2*).
0B6C	1	Fail mode: 0 ok, Fuel indicators inoperable = 1
0B6D	1	Fail mode: 0 ok, Direction Indicator inoperable = 1
0B6E	1	Fail mode: 0 ok, VSI inoperable = 1
0B6F	1	Fail mode: 0 ok, Transponder inoperable = 1
0B70	1	Fail mode: 0 ok, NAV radios inoperable = 1 (NAV1 only in FS2002 and FS2004: see also 3BD6)
0B71	1	Fail mode: 0 ok, Pitot inoperable = 1

0B72	1	Fail mode: 0 ok, Turn coordinator inoperable = 1
0B73	1	Fail mode: 0 ok, Vacuum inoperable = 1
0B74	4	Fuel: centre tank level, % * 128 * 65536
0B78	4	Fuel: centre tank capacity: US Gallons (see also offsets 1244– for extra FS2k/CFS2 fuel tanks)
0B7C	4	Fuel: left main tank level, % * 128 * 65536
0B80	4	Fuel: left main tank capacity: US Gallons
0B84	4	Fuel: left aux tank level, % * 128 * 65536
0B88	4	Fuel: left aux tank capacity: US Gallons
0B8C	4	Fuel: left tip tank level, % * 128 * 65536
0B90	4	Fuel: left tip tank capacity: US Gallons
0B94	4	Fuel: right main tank level, % * 128 * 65536
0B98	4	Fuel: right main tank capacity: US Gallons
0B9C	4	Fuel: right aux tank level, % * 128 * 65536
0BA0	4	Fuel: right aux tank capacity: US Gallons
0BA4	4	Fuel: right tip tank level, % * 128 * 65536
0BA8	4	Fuel: right tip tank capacity: US Gallons
0BAC	2	Inner Marker: activated when TRUE
0BAE	2	Middle Marker: activated when TRUE
0BB0	2	Outer Marker: activated when TRUE

0BB2	2	Elevator control input: –16383 to +16383
0BB4	2	Elevator position indicator (maybe adjusted from input!)
0BB6	2	Aileron control input: –16383 to +16383
0BB8	2	Aileron position indicator (maybe adjusted from input!)
0BBA	2	Rudder control input: –16383 to +16383
0BBC	2	Rudder position indicator (maybe adjusted from input!)
0BC0	2	Elevator trim control input: –16383 to +16383
0BC2	2	Elevator trim indicator (follows input)
0BC4	2	Left brake application read-out (0 off, 16383 full: parking brake=16383). You can apply a fixed brake pressure here, or else use the byte at 0C01 to apply brakes emulating the keypress.[*Note: In FS2002 reading this ranges up to 32767, i.e. twice the written value.*]
0BC6	2	Right brake application read-out (0 off, 16383 full: parking brake=16383). You can apply a fixed brake pressure here, or else use the byte at 0C00 to apply brakes emulating the keypress.[*Note: In FS2002 reading this ranges up to 32767, i.e. twice the written value.*]
0BC8	2	Parking brake: 0=off, 32767=on
0BCA	2	Braking indicator: brake applied if non-zero (16383=on, 0=off). *Note that in FS2002 this is artificially created by FSUIPC from the previous three settings.*
0BCC	4	Spoilers arm (0=off, 1=arm for auto deployment)
0BD0	4	Spoilers control, 0 off to 16383 fully deployed (4800 is set by arming)
0BD4	4	Spoiler Left position indicator (0-16383)
0BD8	4	Spoiler Right position indicator (0-16383)

0BDC	4	Flaps control, 0=up, 16383=full. The "notches" for different aircraft are spaced equally across this range: calculate the increment by 16383/(number of positions-1), ignoring fractions. See also offset 3BFA below.N.B. Do not expect to read this and see 100% accurate values. For example, 3×2047=6141 for the 3rd dTtente up. But FS2000, at least, stores the flaps lever position in the FLT file as a % of 16384, and the percentage is stored to two decimal places. 6141 gets saved as 37.48% which converts back to 6140.7232 and this gets truncated here as 6140. However, 6140/2047 = 2.9995 which is as close as you need. Just round if you are using integers.
0BE0	4	Flaps position indicator (left). Note that in FS2002 and FS2004 this gives the correct proportional amount, with 16383=full deflection. It doesn't correspond to the equally spaced notches used for the control lever. If you know the maximum deflection angle you can derive the current angle by ((max * position indicator) / 16383).Also, in FS2002 and FS2004 this only gives the inboard trailing edge flaps. Please see offsets 30E0–30FF for greater details where needed.
0BE4	4	Flaps position indicator (right). Note that in FS2002 and FS2004 this gives the correct proportional amount, with 16384=full deflection. It doesn't correspond to the equally spaced notches used for the control lever.Also, in FS2002 and FS2004 this only gives the inboard trailing edge flaps. Please see offsets 30E0–30FF for greater details where needed.
0BE8	4	Gear control: 0=Up, 16383=Down
0BEC	4	Gear position (nose): 0=full up, 16383=full down
0BF0	4	Gear position (right): 0=full up, 16383=full down
0BF4	4	Gear position (left): 0=full up, 16383=full down
0BF8	4	Unlimited visibility value, as 1600* statute miles. This is the value set in the Display Quality Settings.
0C00	1	Right toe brake control: 0 – 200, proportional braking with timed decay
0C01	1	Left toe brake control: 0 –200, proportional braking with timed decay
0C18	2	International units: 0=US, 1=Metric+feet, 2=Metric+metres
0C1A	2	Simulation rate *256 (i.e. 256=1x)

0C20	9	Local time in character format: "hh:mm:ss" (with zero terminator)
0C29	5	DME1 distance as character string, either "nn.n" or "nnn." (when > 99.9 nm). The 5th character may be a zero or a space. Don't rely on it.
0C2E	5	DME1 speed as character string, "nnn" followed by either space then zero or just zero.
0C33	5	DME2 distance as character string, either "nn.n" or "nnn." (when > 99.9 nm). The 5th character may be a zero or a space. Don't rely on it.
0C38	5	DME2 speed as character string, "nnn" followed by either space then zero or just zero.
0C3E	2	Gyro drift amount (*360/65536 for degrees).
0C44	2	Realism setting, 0 – 100
0C46	2	Realism options, bits allocated (but not all used in FS2K, necessarily): 0 ??1 elevator trim ratchets (?) 2 gyro drifts [FS2k ok] 3 lights burn out 4 fast throttle kills engine (?) 5 manual light control for instruments [FS2k ok] 6 pressure drifts (unlikely to apply to FS2k]
0C48	1	NAV1 Localiser Needle: –127 left to +127 right
0C49	1	NAV1 Glideslope Needle: –127 up to +127 down
0C4A	1	NAV1 Back Course flags: 0 BC available1 Localiser tuned in 2 On Back Course (?) 7 Station active (even if no BC)
0C4B	1	NAV1 To/From flag: 0=not active, 1=To, 2=From

0C4C	1	NAV1 GS flag: TRUE if GS alive
0C4E	2	NAV1 OBS setting (degrees, 0–359)
0C50	2	NAV1 radial (*360/65536 for degrees)
0C59	1	NAV2 Localiser Needle: –127 left to +127 right
0C5A	1	NAV2 Back Course flags: 0 BC available1 Localiser tuned in 2 On Back Course (?) 7 Station active (even if no BC)
0C5B	1	NAV2 To/From flag: 0=not active, 1=To, 2=From
0C5E	2	NAV2 OBS setting (degrees, 0–359)
0C60	2	NAV2 radial (*360/65536 for degrees)
0C6A	2	ADF1: relative bearing to NDB (*360/65536 for degrees, –ve left, +ve right)
0C6C	2	ADF1: dial bearing, where adjustable (in degrees, 1–360)
0C92	2	Texture quality, 0–3, as on FS2K's slider in Display Quality
0D0C	2	Lights (FS2k/CFS2), a switch for each one (bits from lo to hi): 0 Navigation1 Beacon 2 Landing 3 Taxi 4 Strobes 5 Instruments 6 Recognition 7 Wing 8 Logo

		9 Cabin
0D50	24	The Tower Latitude (8 bytes), Longitude (8 bytes) and Altitude (8 bytes) in the same format as 0560–0577 above.
0D98	2	International N/S setting: 2=North, 3=South
0D9C	2	International E/W setting: 0=East, 1=West
0DD6	2	Scenery BGL variable "usrvar" (originally 0312h in BGL)*(*In FS2004 this is moved to globals by FSUIPC unless 'MoveBGLvariables=No')*
0DD8	2	Scenery BGL variable "usrvr2" (originally 0314h in BGL) *(*In FS2004 this is moved to globals by FSUIPC unless 'MoveBGLvariables=No')*
0DDA	2	Scenery BGL variable "usrvr3" (originally 0316h in BGL) *(*In FS2004 this is moved to globals by FSUIPC unless 'MoveBGLvariables=No')*
0DDC	2	Scenery BGL variable "usrvr4" (originally 0318h in BGL) *(*In FS2004 this is moved to globals by FSUIPC unless 'MoveBGLvariables=No')*
0DDE	2	Scenery BGL variable "usrvr5" (originally 031Ah in BGL) *(*In FS2004 this is moved to globals by FSUIPC unless 'MoveBGLvariables=No')*
0DE2	2	Scenery BGL variable "spar10" (originally 031Eh in BGL)*(doesn't appear to be supported at all in FS2004)*
0DE4	2	Scenery BGL variable "spar11" (originally 0320h in BGL) *(doesn't appear to be supported at all in FS2004)*
0DE6	2	Scenery BGL variable "spar12" (originally 0322h in BGL) *(doesn't appear to be supported at all in FS2004)*
0DE8	2	Scenery BGL variable "spar13" (originally 0324h in BGL) *(doesn't appear to be supported at all in FS2004)*

0DEA	2	Scenery BGL variable "spar14" (originally 0326h in BGL) *(doesn't appear to be supported at all in FS2004)*
0DEC	2	Scenery BGL variable "spar15" (originally 0328h in BGL) *(doesn't appear to be supported at all in FS2004)*
0DEE	2	Scenery BGL variable "spar16" (originally 032Ah in BGL) *(doesn't appear to be supported at all in FS2004)*
0DF0	2	Scenery BGL variable "spar17" (originally 032Ch in BGL) *(doesn't appear to be supported at all in FS2004)*
0DF2	2	Scenery BGL variable "spar18" (originally 032Eh in BGL) *(doesn't appear to be supported at all in FS2004)*
0E5A	2	EFIS active (1=enabled)
0E5C	2	EFIS VOR/ILS elevation in metres
0E5E	2	EFIS density: 0=thin, 1=medium, 2=thick
0E60	2	EFIS range: 0=short, 1=medium, 2=long
0E62	2	EFIS mode: 0=normal, 1=reset, 2=plot intercept
0E64	2	EFIS via VOR (2) or ILS (4)
0E66	2	EFIS NAV select (1 or 2)
0E68	2	EFIS display type: 0=rectangles, 1=telegraph poles, 2=yellow brick road
0E8A	2	Current visibility (Statue miles * 100)
0E8C	2	Outside Air Temperature (OAT), degrees C * 256
0E90	2	Ambient wind speed (at aircraft) in knots

0E92	2	Ambient wind direction (at aircraft), *360/65536 to get degrees Magnetic *or* True.For compatibility with FS98, the direction is Magnetic for surface winds (aircraft below the altitude set into offset 0EEE), but True for all upper winds. See offset 02A0 for magnetic variation and how to convert.
0E9A	112	Current Weather as Set: details follow. [See 0F1C for Global weather setting area]*On FS2000/CFS2 FSUIPC maps writes to this area to the Global weather area starting at 0F1C, and reads from the Global weather area to this Current weather area. Therefore you may not always read back what you last wrote. The main differences occur when FS local weather is in operation.*N.B. See also 0E8A above, which is the "current" visibility equivalent of the global setting at 0F8C.
0E9A	2	Upper cloud layer ceiling in metres AMSL
0E9C	2	Upper cloud layer base in metres AMSL
0E9E	2	Upper cloud layer coverage, 65535 = 8 oktas, … 32768= 4 oktas … 0 = clear
0EA0	2	Upper cloud layer, cloud altitude variation (metres)
0EA2	2	Lower cloud layer ceiling in metres AMSL
0EA4	2	Lower cloud layer base in metres AMSL
0EA6	2	Lower cloud layer coverage, 65535 = 8 oktas, … 32768= 4 oktas … 0 = clear
0EA8	2	Lower cloud layer, cloud altitude variation (metres)
0EAA	2	Storm layer ceiling in metres AMSL
0EAC	2	Storm layer base in metres AMSL (if a Storm layer is present, it must be the lowest, below "Lower Cloud").
0EAE	2	Storm cloud layer coverage, 65535 = 8 oktas, … 32768= 4 oktas … 0 = clear
0EB0	2	Storm cloud layer, cloud altitude variation (metres)
0EB2	2	Upper Temperature level, metres AMSL

0EB4	2	Upper Temperature in degrees C * 256
0EB6	2	Middle Temperature level, metres AMSL
0EB8	2	Middle Temperature in degrees C * 256
0EBA	2	Lower Temperature level, metres AMSL
0EBC	2	Lower Temperature in degrees C * 256
0EBE	2	Surface Temperature level, metres AMSL (best to be the ground elevation)
0EC0	2	Surface Temperature in degrees C * 256
0EC2	2	Temperature drift, degrees C *256 (not used in FS2k/CFS2?)
0EC4	2	Temperature day/night variation, degrees C *256
0EC6	2	Pressure (QNH) as millibars (hectoPascals) *16.
0EC8	2	Pressure drift as millibars *16 (not used on FS2k/CFS2?)
0ECA	2	Upper wind ceiling, metres AMSL
0ECC	2	Upper wind base, metres AMSL
0ECE	2	Upper wind speed, knots
0ED0	2	Upper wind direction, *360/65536 gives degrees True
0ED2	2	Upper wind turbulence setting, 0 none, 64, 128, 192, 224, 255 worst
0ED4	2	Upper wind gusts, enabled if True.
0ED6	2	Middle wind ceiling, metres AMSL
0ED8	2	Middle wind base, metres AMSL

0EDA	2	Middle wind speed, knots
0EDC	2	Middle wind direction, *360/65536 gives degrees True
0EDE	2	Middle wind turbulence setting, 0 none, 64, 128, 192, 224, 255 worst
0EE0	2	Middle wind gusts, enabled if True.
0EE2	2	Lower wind ceiling, metres AMSL
0EE4	2	Lower wind base, metres AMSL
0EE6	2	Lower wind speed, knots
0EE8	2	Lower wind direction, *360/65536 gives degrees True
0EEA	2	Lower wind turbulence setting, 0 none, 64, 128, 192, 224, 255 worst
0EEC	2	Lower wind gusts, enabled if True.
0EEE	2	Surface wind ceiling, metres AMSL
0EF0	2	Surface wind speed, knots. [See also 04D8]
0EF2	2	Surface wind direction, *360/65536 gives degrees Magnetic (!). [See also 04DA]
0EF4	2	Surface wind turbulence setting, 0 none, 64, 128, 192, 224, 255 worst
0EF6	2	Surface wind gusts, enabled if True.
0EF8	2	Upper cloud layer type: 0=user-defined, 1=cirrus, 8=stratus, 9=cumulus
0EFA	2	Upper cloud layer icing: enabled if True
0EFC	2	Upper cloud layer turbulence (0 to 255 I think). Divided into steps by FSUIPC for FS2k/CFS2.
0EFE	2	Lower cloud layer type: 0=user-defined, 1=cirrus, 8=stratus, 9=cumulus

0F00	2	Lower cloud layer icing: enabled if True
0F02	2	Lower cloud layer turbulence (0 to 255 I think). Divided into steps by FSUIPC for FS2k/CFS2.
0F04	2	Storm layer type: 10=storm. [FSUIPC allows this to be a third and lowest layer of any type, for FS2k/CFS2, so then: 0=user-defined, 1=cirrus, 8=stratus, 9=cumulus]
0F06	2	Storm layer icing: enabled if True
0F08	2	Storm layer turbulence (0 to 255 I think). Divided into steps by FSUIPC for FS2k/CFS2.
0F1C	114	Global Weather setting area: details follow. [See 0E9A for Current weather setting area]*On FS2000/CFS2 FSUIPC maps reads from this area to the Current weather area starting at 0E9A, and writes to the Current weather area to this Global weather area. Therefore you may not always read back what you last wrote. The main differences occur when FS local weather is in operation.*
0F1C	2	Upper cloud layer ceiling in metres AMSL
0F1E	2	Upper cloud layer base in metres AMSL
0F20	2	Upper cloud layer coverage, 65535 = 8 oktas, … 32768= 4 oktas … 0 = clear
0F22	2	Upper cloud layer, cloud altitude variation (metres)
0F24	2	Lower cloud layer ceiling in metres AMSL
0F26	2	Lower cloud layer base in metres AMSL
0F28	2	Lower cloud layer coverage, 65535 = 8 oktas, … 32768= 4 oktas … 0 = clear
0F2A	2	Lower cloud layer, cloud altitude variation (metres)
0F2C	2	Storm layer ceiling in metres AMSL
0F2E	2	Storm layer base in metres AMSL (if a Storm layer is present, it must be the lowest, below "Lower Cloud").

0F30	2	Storm cloud layer coverage, 65535 = 8 oktas, ... 32768= 4 oktas ... 0 = clear
0F32	2	Storm cloud layer, cloud altitude variation (metres)
0F34	2	Upper Temperature level, metres AMSL
0F36	2	Upper Temperature in degrees C * 256
0F38	2	Middle Temperature level, metres AMSL
0F3A	2	Middle Temperature in degrees C * 256
0F3C	2	Lower Temperature level, metres AMSL
0F3E	2	Lower Temperature in degrees C * 256
0F40	2	Surface Temperature level, metres AMSL (set this to the ground elevation of the weather reporting station)
0F42	2	Surface Temperature in degrees C * 256
0F44	2	Temperature drift, degrees C *256 (not used in FS2k/CFS2?)
0F46	2	Temperature day/night variation, degrees C *256
0F48	2	Pressure (QNH) as millibars (hectoPascals) *16.
0F4A	2	Pressure drift as millibars *16 (not used on FS2k/CFS2?)
0F4C	2	Upper wind ceiling, metres AMSL
0F4E	2	Upper wind base, metres AMSL
0F50	2	Upper wind speed, knots
0F52	2	Upper wind direction, *360/65536 gives degrees True

0F54	2	Upper wind turbulence setting, 0 none, 64, 128, 192, 224, 255 worst
0F56	2	Upper wind gusts, enabled if True.
0F58	2	Middle wind ceiling, metres AMSL
0F5A	2	Middle wind base, metres AMSL
0F5C	2	Middle wind speed, knots
0F5E	2	Middle wind direction, *360/65536 gives degrees True
0F60	2	Middle wind turbulence setting, 0 none, 64, 128, 192, 224, 255 worst
0F62	2	Middle wind gusts, enabled if True.
0F64	2	Lower wind ceiling, metres AMSL
0F66	2	Lower wind base, metres AMSL
0F68	2	Lower wind speed, knots
0F6A	2	Lower wind direction, *360/65536 gives degrees True
0F6C	2	Lower wind turbulence setting, 0 none, 64, 128, 192, 224, 255 worst
0F6E	2	Lower wind gusts, enabled if True.
0F70	2	Surface wind ceiling, metres AMSL
0F72	2	Surface wind speed, knots. [See also 04D8]
0F74	2	Surface wind direction, *360/65536 gives degrees Magnetic (!). [See also 04DA]
0F76	2	Surface wind turbulence setting, 0 none, 64, 128, 192, 224, 255 worst
0F78	2	Surface wind gusts, enabled if True.

0F7A	2	Upper cloud layer type: 0=user-defined, 1=cirrus, 8=stratus, 9=cumulus
0F7C	2	Upper cloud layer icing: enabled if True
0F7E	2	Upper cloud layer turbulence (0 to 255 I think). Divided into steps by FSUIPC for FS2k/CFS2.
0F80	2	Lower cloud layer type: 0=user-defined, 1=cirrus, 8=stratus, 9=cumulus
0F82	2	Lower cloud layer icing: enabled if True
0F84	2	Lower cloud layer turbulence (0 to 255 I think). Divided into steps by FSUIPC for FS2k/CFS2.
0F86	2	Storm layer type: 10=storm. [FSUIPC allows this to be a third and lowest layer of any type, for FS2k/CFS2, so then: 0=user-defined, 1=cirrus, 8=stratus, 9=cumulus]
0F88	2	Storm layer icing: enabled if True
0F8A	2	Storm layer turbulence (0 to 255 I think). Divided into steps by FSUIPC for FS2k/CFS2.
0F8C	2	Visibility setting as 100 * statute miles
0FF0	272	Path and filename reading facility: see section in text preceding this table
115E	1	Time of day indicator, 1=Day, 2=Dusk or Dawn, 4=Night. Set according to the local time, read for lighting effects and so on in BGLs.
11BA	2	G Force: units unknown, but /625 seems to give quite sensible values.
11BE	2	Angle of Attack. This is actually a relative value, giving in %*32767 the difference between the current AofA and the maximum angle of attack for the current aircraft. For a relative measure of AofA calculate 100-(100*#/32767), where # is this number. (*Thanks to Sergey Khantsis for this clarification*).
11C6	2	Mach speed *20480.
11D0	2	Total Air Temperature (TAT), degrees Celsius * 256

11D4	4	This is an internal pointer, not for specific use by applications, *except* that it can be used as a flag to indicate when it is possible to read or write most of the simulation variables. When this DWORD is zero FSUIPC cannot obtain correct values from SIM1.SIM (SIM1.DLL in FS2002) because either it isn't loaded or because it is busy re-calculating values by reading and processing Flight or aircraft files.
1244	4	Fuel: centre 2 tank level, % * 128 * 65536 [FS2k/CFS2 only]
1248	4	Fuel: centre 2 tank capacity: US Gallons [FS2k/CFS2 only]
124C	4	Fuel: centre 3 tank level, % * 128 * 65536 [FS2k/CFS2 only]
1250	4	Fuel: centre 3 tank capacity: US Gallons [FS2k/CFS2 only]
1254	4	Fuel: external 1 tank level, % * 128 * 65536 [FS2k/CFS2 only]
1258	4	Fuel: external 1 tank capacity: US Gallons [FS2k/CFS2 only]
125C	4	Fuel: external 2 tank level, % * 128 * 65536 [FS2k/CFS2 only]
1260	4	Fuel: external 2 tank capacity: US Gallons [FS2k/CFS2 only]
1274	2	Text display mode (eg for ATIS): =0 static, =1 scrolling [FS2k/CFS2 only]. (*Note that this is accessible in FS98 at 1254, but this was discovered after the FS2k extra fuel information was mapped.*)
132C	4	NAV/GPS switch, in FS2000 & FS2002. 0=NAV, 1=GPS
13FC	4	Count of Payload Stations (FS2004 only)
1400	48 x n	A set of Payload Station data, 48 bytes for each payload station (the count is in 13FC above). [FS2004 only]. Each 48 byte entry contains: double weight (lbs)double lateral distance from datum (feet) double vertical distance from datum (feet) double longitudinal distance from datum (feet)

		char Name[16]; // 16 char name, including 0 at end There's room for up to 61 such stations here. If there are more you can't access them this way. These loadings can be changed, and this does have some effect, but such changes are not being promulgated to the overall weights (offsets 30C0, 30C8, 3BFC) nor balance (2EF8), and it looks like they have to refreshed, as FS overrides them from time to time. It has also been reported that FS can crash if a lot of changes are made here, so care and full testing is needed.
1F80	*	Write-only area for a TCAS_DATA structure, used to add entries to the TCAS data tables—see offset, below, and the section on TCAS earlier in this document.* The length of data written here is determined by the size of the TCAS_DATA structure, currently 40 bytes (but read this from offset F000).
2000	8	Turbine Engine 1 N1 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2008	8	Turbine Engine 1 N2 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2010	8	Turbine Engine 1 corrected N1 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2018	8	Turbine Engine 1 corrected N2 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2020	8	Turbine Engine 1 corrected fuel flow (pounds per hour) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2028	8	Turbine Engine 1 max torque fraction (range 0.0–1.0) as a double (FLOAT64). (*Only tested on turboprops*).
2030	8	Turbine Engine 1 EPR as a double (FLOAT64). This is for jets and turboprops.
2038	8	Turbine Engine 1 ITT (interstage turbine temperature) in degrees Rankine, as a double (FLOAT64). This is for jets and turboprops.

204C	8	Turbine Engine 1 jet thrust, in pounds, as a double (FLOAT64). This is the jet thrust. See 2410 for propeller thrust (turboprops have both).
205C	4	Turbine Engine 1, number of fuel tanks available
2060	8	Turbine Engine 1 fuel flow (pounds per hour) as a double (FLOAT64). This is for jets and turboprops.
206C	8	Turbine Engine 1 bleed air pressure (pounds per square inch) as a double (FLOAT64). This is for jets and turboprops.
207C	8	Turbine Engine 1 reverser fraction, a double (FLOAT64), in the range 0.0–1.0, providing the reverse as a proportion of the maximum reverse throttle position.
2100	8	Turbine Engine 2 N1 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2108	8	Turbine Engine 2 N2 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2110	8	Turbine Engine 2 corrected N1 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2118	8	Turbine Engine 2 corrected N2 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2120	8	Turbine Engine 2 corrected fuel flow (pounds per hour) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2128	8	Turbine Engine 2 max torque fraction (range 0.0–1.0) as a double (FLOAT64). (*Only tested on turboprops*).
2130	8	Turbine Engine 2 EPR as a double (FLOAT64). This is for jets and turboprops.
2138	8	Turbine Engine 2 ITT (interstage turbine temperature) in degrees Rankine, as a double (FLOAT64). This is for jets and turboprops.

214C	8	Turbine Engine 2 jet thrust, in pounds, as a double (FLOAT64). This is the jet thrust. See 2510 for propeller thrust (turboprops have both).
215C	4	Turbine Engine 2, number of fuel tanks available
2160	8	Turbine Engine 2 fuel flow (pounds per hour) as a double (FLOAT64). This is for jets and turboprops.
216C	8	Turbine Engine 2 bleed air pressure (pounds per square inch) as a double (FLOAT64). This is for jets and turboprops.
217C	8	Turbine Engine 2 reverser fraction, a double (FLOAT64), in the range 0.0–1.0, providing the reverse as a proportion of the maximum reverse throttle position.
2200	8	Turbine Engine 3 N1 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2208	8	Turbine Engine 3 N2 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2210	8	Turbine Engine 3 corrected N1 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2218	8	Turbine Engine 3 corrected N2 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2220	8	Turbine Engine 3 corrected fuel flow (pounds per hour) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2228	8	Turbine Engine 3 max torque fraction (range 0.0–1.0) as a double (FLOAT64). (*Only tested on turboprops*).
2230	8	Turbine Engine 3 EPR as a double (FLOAT64). This is for jets and turboprops.
2238	8	Turbine Engine 3 ITT (interstage turbine temperature) in degrees Rankine, as a double (FLOAT64). This is for jets and turboprops.

224C	8	Turbine Engine 3 jet thrust, in pounds, as a double (FLOAT64). This is the jet thrust. See 2610 for propeller thrust (turboprops have both).
225C	4	Turbine Engine 3, number of fuel tanks available
2260	8	Turbine Engine 3 fuel flow (pounds per hour) as a double (FLOAT64). This is for jets and turboprops.
226C	8	Turbine Engine 3 bleed air pressure (pounds per square inch) as a double (FLOAT64). This is for jets and turboprops.
227C	8	Turbine Engine 3 reverser fraction, a double (FLOAT64), in the range 0.0–1.0, providing the reverse as a proportion of the maximum reverse throttle position.
2300	8	Turbine Engine 4 N1 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2308	8	Turbine Engine 4 N2 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2310	8	Turbine Engine 4 corrected N1 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2318	8	Turbine Engine 4 corrected N2 value (%) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2320	8	Turbine Engine 4 corrected fuel flow (pounds per hour) as a double (FLOAT64). This is for jets and turboprops—it has no meaning on reciprocating prop aircraft.
2328	8	Turbine Engine 4 max torque fraction (range 0.0–1.0) as a double (FLOAT64). (*Only tested on turboprops*).
2330	8	Turbine Engine 4 EPR as a double (FLOAT64). This is for jets and turboprops.
2338	8	Turbine Engine 4 ITT (interstage turbine temperature) in degrees Rankine, as a double (FLOAT64). This is for jets and turboprops.

234C	8	Turbine Engine 4 jet thrust, in pounds, as a double (FLOAT64). This is the jet thrust. See 2710 for propeller thrust (turboprops have both).
235C	4	Turbine Engine 4, number of fuel tanks available
2360	8	Turbine Engine 4 fuel flow (pounds per hour) as a double (FLOAT64). This is for jets and turboprops.
236C	8	Turbine Engine 4 bleed air pressure (pounds per square inch) as a double (FLOAT64). This is for jets and turboprops.
237C	8	Turbine Engine 4 reverser fraction, a double (FLOAT64), in the range 0.0–1.0, providing the reverse as a proportion of the maximum reverse throttle position.
2400	8	Propeller 1 RPM as a double (FLOAT64). This value is for props and turboprops and is negative for counter-rotating propellers.
2408	8	Propeller 1 RPM as a fraction of the maximum RPM. (double)
2410	8	Propeller 1 thrust in pounds, as a double (FLOAT64). This is for props and turboprops.
2418	8	Propeller 1 Beta blade angle in radians, as a double (FLOAT64). This is for props and turboprops.
2500	8	Propeller 2 RPM as a double (FLOAT64). This value is for props and turboprops and is negative for counter-rotating propellers.
2508	8	Propeller 2 RPM as a fraction of the maximum RPM. (double)
2510	8	Propeller 2 thrust in pounds, as a double (FLOAT64). This is for props and turboprops.
2518	8	Propeller 2 Beta blade angle in radians, as a double (FLOAT64). This is for props and turboprops.
2600	8	Propeller 3 RPM as a double (FLOAT64). This value is for props and turboprops and is negative for counter-rotating propellers.
2608	8	Propeller 3 RPM as a fraction of the maximum RPM. (double)

2610	8	Propeller 3 thrust in pounds, as a double (FLOAT64). This is for props and turboprops.
2618	8	Propeller 3 Beta blade angle in radians, as a double (FLOAT64). This is for props and turboprops.
2700	8	Propeller 4 RPM as a double (FLOAT64). This value is for props and turboprops and is negative for counter-rotating propellers.
2708	8	Propeller 4 RPM as a fraction of the maximum RPM. (double)
2710	8	Propeller 4 thrust in pounds, as a double (FLOAT64). This is for props and turboprops.
2718	8	Propeller 4 Beta blade angle in radians, as a double (FLOAT64). This is for props and turboprops.
281C	4	Master battery switch (1=On, 0=Off)
28C0	8	Ambient air density, in slugs per cubic foot, double floating point. (FS2002+)
28C8	8	Ambient air pressure, in lbs per square foot, double floating point. (FS2002+)
28D0	8	Static air temperature, in degrees Fahrenheit, double floating point. (FS2002+)
28D8	8	Static air temperature, in degrees Rankine, double floating point. (FS2002+)
28E0	8	"Theta", or standard temperature ratio (i.e ambient air temperature divided by standard ISO air temperature), double floating point. (FS2002+)
28E8	8	"Delta", or standard pressure ratio (ambient pressure divided by the ISO standard pressure, double floating point. (FS2002+)
28F0	8	"Sigma", or standard density ratio (ambient density divided by the ISO standard density, double floating point. (FS2002+)
2900	12	A.I. traffic control. Write all 3 32-bit values (i.e. 12 bytes) together to send an FS control to a specific AI aircraft. The values needed are: Bytes 0–3: Aircraft Id (from the TCAS table)Bytes 4–7: The FS Control (see published lists) Bytes 8–11: A parameter for the control, if needed

		Note that most of the many hundreds of FS controls will have no noticeable affect on the AI aircraft. Experimentation is needed. If folks find out what does what, please let me know and I'll try to publish a collated guide as an appendix later. FSUIPC offers one special extra control. Just set the aircraft ID and an FS control of 0xFFFF (65535) and the aircraft will be deleted. Note that you can write these values in separate FSUIPC Writes, but if you do the ID must be last, as it is only when this is written that the control is activated.
290C	4	Number of Hot Joystick Button slots available for Application Programs to use. Currently this is fixed at 56, representing the 56 DWORDs available in the following offsets:
2910	224	56 DWORDs containing zero (when free for use), or a Hot Joystick Button specification as detailed earlier in this document. See also 32FF below.
2DC6	2	Helicopter "beep" (whatever that is—something to do with the governor). This value is also controlled by the *Increase Heli Beep* and *Decrease Heli Beep* FS controls. It appears to change from 0 to 16313 then more slowly to 16368.
2DC8	8	For FS2004 only, this is the wind at the aircraft in the lateral (X) axis—relative to the aircraft orientation, in feet per second, as a 64-bit double.[Note that this will not necessarily be correct if the facilities in offsets 2DE0/2DE8 below have been used to change the wind speed or direction.]
2DD0	8	For FS2004 only, this is the wind at the aircraft in the vertical (Y) axis—relative to the aircraft orientation, in feet per second, as a 64-bit double. [Note that this will not necessarily be correct if the facilities in offsets 2DE0/2DE8 below have been used to change the wind speed or direction.]
2DD8	8	For FS2004 only, this is the wind at the aircraft in the longitudinal (Z) axis—relative to the aircraft orientation, in feet per second, as a 64-bit double.[Note that this will not necessarily be correct if the facilities in offsets 2DE0/2DE8 below have been used to change the wind speed or direction.]
2DE0	8	For FS2004 only, Wind direction at the aircraft, in degrees True, as a 64-bit double floating point.This can be written to directly affect the wind direction at the aircraft. This value is set *before* FSUIPC performs any smoothing or limiting actions, and effectively become the new target value. FSUIPC sustains this as a target for a maximum of 14 seconds, with the next write to the same location restarting this timeout. After the timeout has been allowed to expire the intended FS value will take over, with smoothing and so on if enabled.Note that wind direction set in this fashion is *not* reflected in any weather data supplied by the weather system in FS nor FSUIPC. It

		is acting locally to the aircraft and can be monitored by Shift+Z or the ambient weather read-outs in FSUIPC.
2DE8	8	For FS2004 only, Wind speed at the aircraft, in knots, as a 64-bit double floating point.This can be written to directly affect the wind speed at the aircraft. This value is set *before* FSUIPC performs any smoothing or limiting actions, and effectively become the new target value. FSUIPC sustains this as a target for a maximum of 14 seconds, with the next write to the same location restarting this timeout. After the timeout has been allowed to expire the intended FS value will take over, with smoothing and so on if enabled.Note that wind speed set in this fashion is *not* reflected in any weather data supplied by the weather system in FS nor FSUIPC. It is acting locally to the aircraft and can be monitored by Shift+Z or the ambient weather read-outs in FSUIPC.
2DF0	8	For FS2004 only, Visibility at the aircraft, in metres, as a 64-bit double floating point.This can be written to directly affect the visibility at the aircraft. This value is set *before* FSUIPC performs any smoothing or limiting actions, and effectively become the new target value. FSUIPC sustains this as a target for a maximum of 14 seconds, with the next write to the same location restarting this timeout. After the timeout has been allowed to expire the intended FS value will take over, with smoothing and so on if enabled.Note that visibility set in this fashion is *not* reflected in any weather data supplied by the weather system in FS nor FSUIPC. It is acting locally to the aircraft and can be monitored by Shift+Z or the ambient weather read-outs in FSUIPC.
2E80	4	Master avionics switch (0=Off, 1=On)
2E88	4	Panel auto-feather arm switch (0=Off, 1=On)
2E98	8	Elevator deflection, in radians, as a double (FLOAT64). Up positive, down negative.
2EA0	8	Elevator trim deflection, in radians, as a double (FLOAT64). Up positive, down negative.
2EA8	8	Aileron deflection, in radians, as a double (FLOAT64). Right turn positive, left turn negative.
2EB0	8	Aileron trim deflection, in radians, as a double (FLOAT64). Right turn positive, left turn negative.
2EB8	8	Rudder deflection, in radians, as a double (FLOAT64).
2EC0	8	Rudder trim deflection, in radians, as a double (FLOAT64).

2EC8	4	Prop sync active (1=Active, 0=Inactive)
2ED0	8	Incidence "alpha", in radians, as a double (FLOAT64). This is the aircraft *body* angle of attack (AoA) not the *wing* AoA.
2ED8	8	Incidence "beta", in radians, as a double (FLOAT64). This is the side slip angle.
2EE0	4	Flight Director Active, control and indicator. 1=active, 0=inactive. [FS2000–FS2004 only]
2EE8	8	Flight director pitch value, in degrees. Double floating point format, only when FD is active. [FS2000–FS2004 only]
2EF0	8	Flight director bank value, in degrees. Double floating point format, right is negative, left positive. [FS2000–FS2004 only]
2EF8	8	CG percent, as a double (FLOAT64). This is probably the position of the actual CoG as a % of MAC (?).
2F70	8	Attitude indicator pitch value, in degrees. Double floating point format. This is the ATTITUDE_INDICATOR _PITCH_DEGREES variable previously listed as specific to FS2000. [FS2000/FS2002 only]
2F78	8	Attitude indicator bank value, in degrees. Double floating point format. This is the ATTITUDE_INDICATOR_BANK_DEGREES variable previously listed as specific to FS2000. [FS2000/FS2002 only]
2F80	1	PANEL AUTOBRAKE SWITCHRead to check setting, write to change it.0=RTO, 1=Off, 2=brake1, 3=brake2, 4=brake3, 5=max
2FE0	32	Modules Menu, application item write area (see earlier in this document)
3000	6	VOR1 IDENTITY (string supplied: 6 bytes including zero terminator)
3006	25	VOR1 name (string supplied: 25 bytes including zero terminator)
301F	6	VOR2 IDENTITY (string supplied: 6 bytes including zero terminator)

3025	25	VOR2 name (string supplied: 25 bytes needed including zero terminator)
303E	6	ADF1 IDENTITY (string supplied: 6 bytes including zero terminator)
3044	25	ADF1 name (string supplied: 25 bytes including zero terminator)
3060	8	X (lateral, or left/right) acceleration in ft/sec/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
3068	8	Y (vertical, or up/down) acceleration in ft/sec/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
3070	8	Z (longitudinal, or forward/backward) acceleration in ft/sec/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
3078	8	Pitch acceleration in radians/sec/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
3080	8	Roll acceleration in radians/sec/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
3088	8	Yaw acceleration in radians/sec/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
3090	8	Z (longitudinal, or forward/backward) GS-velocity in ft/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
3098	8	X (lateral, or left/right) GS-velocity in ft/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
30A0	8	Y (vertical, or up/down) GS-velocity in ft/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
30A8	8	Pitch velocity in rads/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
30B0	8	Roll velocity in rads/sec relative to the body axes (*see Note at end of table*). This is in double

		floating point format (FLOAT64). [FS2000 and later]
30B8	8	Yaw velocity in rads/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000 and later]
30C0	8	Current loaded weight in lbs. This is in double floating point format (FLOAT64). [FS2000 and later]
30C8	8	Plane's current mass, in slugs (1 slug = 1lb*G = 32.174049 lbs) mass. This is in double floating point format (FLOAT64).The current mass = current loaded weight (as in 30C0) * G, where G is 32.174049.
30D0	8	Vertical acceleration in G's. This is in double floating point format (FLOAT64). [FS2k only]
30D8	8	Dynamic pressure (lbs/sqft). [FS2k/CFS2/FS2002 only]
30E0	2	[FS2002/4 only]: Trailing edge left inboard flap extension as a percentage of its maximum, with 16383 = 100%
30E2	2	[FS2002/4 only]: Trailing edge left outboard flap extension as a percentage of its maximum, with 16383 = 100%
30E4	2	[FS2002/4 only]: Trailing edge right inboard flap extension as a percentage of its maximum, with 16383 = 100%
30E6	2	[FS2002/4 only]: Trailing edge right outboard flap extension as a percentage of its maximum, with 16383 = 100%
30E8	2	[FS2002/4 only]: Leading edge left inboard flap extension as a percentage of its maximum, with 16383 = 100%
30EA	2	[FS2002/4 only]: Leading edge left outboard flap extension as a percentage of its maximum, with 16383 = 100%
30EC	2	[FS2002/4 only]: Leading edge right inboard flap extension as a percentage of its maximum, with 16383 = 100%

30EE	2	[FS2002/4 only]: Leading edge right outboard flap extension as a percentage of its maximum, with 16383 = 100%
30F0	2	[FS2002/4 only]: Trailing edge left inboard flap extension in degrees * 256.
30F2	2	[FS2002/4 only]: Trailing edge left outboard flap extension in degrees * 256.
30F4	2	[FS2002/4 only]: Trailing edge right inboard flap extension in degrees * 256.
30F6	2	[FS2002/4 only]: Trailing edge right outboard flap extension in degrees * 256.
30F8	2	[FS2002/4 only]: Leading edge left inboard flap extension in degrees * 256.
30FA	2	[FS2002/4 only]: Leading edge left outboard flap extension in degrees * 256.
30FC	2	[FS2002/4 only]: Leading edge right inboard flap extension in degrees * 256.
30FE	2	[FS2002/4 only]: Leading edge right outboard flap extension in degrees * 256.
3100	1	Engine primer (just write a non-zero byte to operate the primer. This is a one-shot and reading it is meaningless) [FS2000+]
3101	1	Alternator (1 = on, 0 = off), read for state, write to control [FS2000+]
3102	1	Battery (1 = on, 0 = off), read for state, write to control [FS2000+]
3103	1	Avionics (1 = on, 0 = off), read for state, write to control [FS2000+]
3104	1	Fuel pump (1 = on, 0 = off), read for state, write to control [FS2000+]. For separate switches for separate fuel pumps see offset 3125.
3105	1	VOR1 morse ID sound (1 = on, 0 = off), read for state, write to control [FS2000+]
3106	1	VOR2 morse ID sound (1 = on, 0 = off), read for state, write to control [FS2000+]
3107	1	ADF1 morse ID sound (1 = on, 0 = off), read for state, write to control [FS2000+]

3108	1	Write 1 here to disable FSUIPC's "AutoTune ADF1" facility, if this has been enabled by the user in FSUIPC.INI.
3109	1	Write 1 here to disable AxisCalibration even if enabled in FSUIPC.INI.
310A	1	Controls the joystick connection to the main flight controls. Normally all zero, set the following bits to actually disconnect the specific joystick axes (from least significant bit = 0):0 Elevator1 Aileron 2 Rudder 3 Throttles (all) 4 *See below* 5 Elevator trim This feature is intended for use in protecting autopilot flight from interference from axis flutter. In order to protect the user from a broken or crashed application, all the flags are cleared 10 seconds after they have been set, so applications will need to repeat the setting every few seconds. If the user option is set to automatically disconnect the trim axis in FS A/P vertical modes, the disconnection of Elevator inputs via bit 0 above also disconnects Trim even if bit 5 is not also set. This allows existing A/P or fly-by-wire applications to work with those user implementations using a trim axis. Additionally, bit 2^4 is available to switch "throttle sync" on. In this mode all throttles are driven from the main throttle or throttle 1 inputs, and other throttle inputs are discarded. (The same option can also be used from an optional Hot Key). See also offsets 3328–3339, which provide the live axis values, post calibration. These would have been applied to FS if not prevented by the flags above. Applications can use these facilities to provide a responsive "fly-by-wire" control.
310B	1	Controls the joystick connection to the slewing controls. Normally all zero, set the following bits to actually disconnect the specific slewing axes (from least significant bit = 0):0 Slew Ahead1 Slew Side 2 Slew Heading 3 Slew Altitude 4 Slew Bank

		5 Slew Pitch In order to protect the user from a broken or crashed application, all the flags are cleared 10 seconds after they have been set, so applications will need to repeat the setting every few seconds.
310C	4	*Reserved*
3110	8	Operates a facility to send any 'controls' to Flight simulator. This works with *all* versions of FS & CFS. Write all 8 bytes for controls which use a value (axes and all _SET controls), but just 4 will do for 'button' types.This is really two 32-bit integers. The first contains the Control number (normally 65536 upwards), as seen in my FS Controls lists. The second integer is used for the parameter, such as the scaled axis value, where this is appropriate. Always write all 8 bytes in one IPC block if a parameter is used, as FSUIPC will fire the control when you write to 3110.Since version 3.40, FSUIPC-added controls (other than the offset ones) can be used via these offsets too. See the Advanced User's Guide for a current list.
3118	2	COM2 frequency (FS2002+ only), 4 digits in BCD format. A frequency of 123.45 is represented by 0x2345. The leading 1 is assumed.
311A	2	COM1 standby frequency (FS2002+ only), 4 digits in BCD format. A frequency of 123.45 is represented by 0x2345. The leading 1 is assumed.
311C	2	COM2 standby frequency (FS2002+ only), 4 digits in BCD format. A frequency of 123.45 is represented by 0x2345. The leading 1 is assumed.
311E	2	NAV1 standby frequency (FS2002+ only), 4 digits in BCD format. A frequency of 113.45 is represented by 0x1345. The leading 1 is assumed.
3120	2	NAV2 standby frequency (FS2002+ only), 4 digits in BCD format. A frequency of 113.45 is represented by 0x1345. The leading 1 is assumed.
3122	1	Radio audio switches (FS2002+ only). Read/write bit settings as follows:2^7 COM1 transmit2^6 COM2 transmit 2^5 COM receive both 2^4 NAV1 sound

		2^3 NAV2 sound 2^2 Marker sound 2^1 DME sound 2^0 ADF1 sound For ADF2 sound, on FS2004, see offset 02FB.
3123	1	Radio Use/Standby swap toggles (FS2002+ only), Write bits to operate toggles. Don't bother to read it, there's no meaning to anything read.2^3 COM1 swap2^2 COM2 swap 2^1 NAV1 swap 2^0 NAV2 swap
3124	1	FS2002 only: "electric always available" flag: set if 1, clear if 0. Can be controlled by writing also.
3125	1	FS2000/FS2002 only: separate switches for up to 4 Fuel Pumps (one for each engine). Bit 2^0=Pump1, 2^1=Pump2, 2^2=Pump3, 2^4=Pump4. (*see also offset 3104*)
3126	1	Set view direction (write only, current view not detected). 0 = FORWARD1–7 = FORWARD RIGHT and 45 degree views, clockwise 8 = DOWN 9 = UP 10-17 = FORWARD UP then 45 degree UP views, clockwise all other values = RESET
3127	9	FSUIPC weather option control area: see text section earlier in this document.
3130	12	ATC flight number string for currently loaded user aircraft, as declared in the AIRCRAFT.CFG file. This is limited to a maximum of 12 characters, including a zero terminator. [FS2002+ only]
313C	12	ATC identifier (tail number) string for currently loaded user aircraft, as declared in the AIRCRAFT.CFG file. This is limited to a maximum of 12 characters, including a zero terminator. [FS2002+ only]

3148	24	ATC airline name string for currently loaded user aircraft, as declared in the AIRCRAFT.CFG file. This is limited to a maximum of 24 characters, including a zero terminator. [FS2002+ only]
3160	24	ATC aircraft type string for currently loaded user aircraft, as declared in the AIRCRAFT.CFG file. This is limited to a maximum of 24 characters, including a zero terminator. [FS2002+ only]
3178	8	Z (longitudinal, or forward/backward) TAS-velocity in ft/sec relative to the body axes. This is in double floating point format (FLOAT64). [[FS2002+ only]]
3180	8	X (lateral, or left/right) TAS-velocity in ft/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [[FS2002+ only]]
3188	8	Y (vertical, or up/down) TAS-velocity in ft/sec relative to the body axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [[FS2002+ only]]
3190	8	Z (longitudinal, or forward/backward) GS-velocity in ft/sec relative to world axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000+]
3198	8	X (lateral, or left/right) GS-velocity in ft/sec relative to world axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000+]N.B. The sign may be reversed in FS2002?
31A0	8	Y (vertical, or up/down) GS-velocity in ft/sec relative to world axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000+]
31A8	8	Pitch velocity in rads/sec relative to world axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000+]
31B0	8	Roll velocity in rads/sec relative to world axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000+] N.B. In FS2002 the sign may be reversed, and the units may be 16x
31B8	8	Yaw velocity in rads/sec relative to world axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2000+] N.B. In FS2002 the sign may be reversed, and the units may be 16x
31C0	8	X (lateral, or left/right) acceleration in ft/sec/sec relative to the world axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2002+]

31C8	8	Y (vertical, or up/down) acceleration in ft/sec/sec relative to the world axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2002+]
31D0	8	Z (longitudinal, or forward/backward) acceleration in ft/sec/sec relative to the world axes (*see Note at end of table*). This is in double floating point format (FLOAT64). [FS2002+]
31D8	2	Slew mode longitudinal axis (i.e. forward/backward) input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310B)
31DA	2	Slew mode lateral axis (i.e. left/right) input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310B)
31DC	2	Slew mode yaw axis (i.e. heading) input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310B)
31DE	2	Slew mode vertical axis (i.e. altitude) input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310B)
31E0	2	Slew mode roll axis (i.e. bank) input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310B)
31E2	2	Slew mode pitch axis input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310B)
31E4	4	Radio altitude in metres * 65536(Calculated by FSUIPC from ground altitude and aircraft altitude)
31E8	4	Surface type as a 32-bit integer (FS2002+ only). I think this only applies when the aircraft is on the ground. The values probably correspond to the surface encoding in the scenery files, thus: CONCRETE 0> GRASS 1 soft, bumpy ground (landable) > WATER 2 > GRASS BUMPY 3 very bumpy grass & mud (crashable) > ASPHALT 4 > SHORT GRASS 5 > LONG GRASS 6

		> HARD TURF 7 > SNOW 8 > ICE 9 > URBAN 10 > FOREST 11 > DIRT 12 > CORAL 13 > GRAVEL 14 > OIL TREATED 15 tar & chip > STEEL MATS 16 steel mesh temporary runways > BITUMINUS 17 > BRICK 18 > MACADAM 19 > PLANKS 20 > SAND 21 > SHALE 22 > TARMAC 23 > UNKNOWN 254
31EC	4	Surface condition as a 32-bit integer (FS2002+ only), probably as follows:> NORMAL 0> WET 1 > ICY 2 > SNOW 3 snow on a non-snow surface
31F0	4	Pushback status (FS2002 only).3=off, 0=pushing back, 1=pushing back, tail to swing to left (port), 2=pushing back, tail to swing to right (starboard)
31F4	4	Pushback control (FS2002 only). Write 0–3 here to set pushback operation, as described for the

		status, above.
31F8	4	Tug Heading (FS2002 only). [*not investigated*]
31FC	4	Tug Speed (FS2002 only). [*not investigate*]
3200	12	These locations operate the FSUIPC facility to send keystrokes to FS. For this to operate correctly the PC must be using Windows 98, ME or 2000. The facilities used just do not exist in Windows 95 nor NT.3200 message (WM_KEYDOWN or WM_KEYUP)3204 wParam for the message 3208 lParam for the message All 12 bytes must be written in one IPC write. (This feature is used in WideClient version 3.998 and later, when the [User] parameter "SendKeyPresses=Yes" is included in its .ini file, to relay all non-system (i.e. no Alt key) key presses it receives to the WideServer host).
320C	4	Number of Hot Key slots available for Application Programs to use. Currently this is fixed at 56, representing the 56 DWORDs available in the following offsets:
3210	224	56 DWORDs containing zero (when free for use), or a Hot Key specification as detailed earlier in this document. See also 32FE below.
32F0	4	This DWORD controls some protected mode facilities in FSUIPC, designed to set known conditions in FSUIPC and prevent access to specific menus, whilst an application is running.The whole 32 bit DWORD should be written at once, but the use is divided into Bytes, as follows:Bits 0–7 (byte at 32F0): FSUIPC option settings 2^0 Sets FSUIPC "normal defaults" 2^1 Sets FSUIPC "minimum weather defaults" any non-zero value in this byte stops entry to FSUIPC options Bits 8–15 (byte at 32F1): Flight Sim menu restrictions 2^10 Disable World menu 2^11 Disable Aircraft menu 2^12 Disable Flights menu 2^13 Disable Options menu

		2^14 Disable Flights, Aircraft and World menus 2^15 Disable ALL Menus Bits 16–23 (byte at 32F2): *reserved* Bits 24–31 (byte at 32F3): Timeout (in ticks or 55 mSecs units) The application must write this DWORD regularly for the restrictions to stay in place. The count in the high byte is decremented by 1 every 55 mSecs, so a maximum time of 14 seconds can be set. To be safe the application should be re-writing this with a count of FF (255) every 5 or so seconds, especially if it is likely to be running across WideFS. When the count expires, or the application whites a zero DWORD here, all the options and menus return to normal.
32F4	2	The 16-bit ID of the last menu command item accessed in FS can be read here. By "access" is not meant "used"–that cannot be determined easily. Just having a menu command highlit will denote an access.To decode command Ids, use FSUIPC logging. First, before running FSUIPC set "Debug=Please" and "LogExtras=64" into the FSUIPC.INI file. Then run FS and select the menu items in which you are interested. Examine the FSUIPC Log afterwards to determine the ID.
32F6	2	FSUIPC selected technical option inhibits.Set bits here to turn *off* specific options and prevent the user turning them back on, for a limited time (max 14 seconds). To keep options turned off you need to write this mask at regular intervals (e.g. every 5 seconds).Note that this is not obeyed if the user has selected to option to disallow all external control of his options. If he has done this, you can detect it by reading this location back within the time limit. If it is zero, not the value written, then the user is preventing your control over his settings. Bits allocated so far are as follows (bit 0 = 2^0 bit): 0 Reverse elevator trim sense 1 Fix control accelerations 2 Rudder spike elimination 3 Elevator spike elimination 4 Aileron spike elimination 5 Autopilot altitude fix (enable V/S sign corrn.)

		6 Extend battery life 7 FS clock seconds sync
32F8	1	This provides options to inhibit certain aircraft operations, for use in breakdown or precise control implementations. Set individual bits for individual subsystems. Currently the following are available, all related to hydraulic power:2^0 Set to inhibit flap operation2^1 Set to inhibit spoiler operation 2^2 Set to inhibit gear operation Note that these stop operation from axis and button controls very well, and also from key presses and mouse clicks—but in these latter two cases it is done by detecting a change in the system and changing it back. This works, but the device will sometimes try to move, and this can be noticeable, especially for some reason with the flaps—the indicator gives a little jump and the noise briefly starts. [FS2002 and later only]
32F9	1	*Reserved*
32FA	2	Text display control word. You can display messages from an external program just like an Adventure. Write the message as a zero-terminated string to offset 3380 (see below), subject to the maximum of 128 characters *including* the zero terminator, then write a number to this offset, 32FA, as follows: 0 display till replaced+n display for n seconds, or until replaced –1 display and scroll, or until replaced –n display and scroll, or for n seconds, or until replaced In the last two cases, whether the message scrolls or not depends upon the setting of the "Options—Settings—General—Text Display" option. See also offset 1274 above, and the "white messages" option in 3302 below.
32FC	2	AIR file change counter (incremented by FSUIPC whenever the AIR file as defined at offset 3C00 changes).This is also incremented when the FS2004 control to "reload user aircraft" is detected —assign it to a joystick button or to a Key in FSUIPC for this. FSUIPC cannot detect controls arising from key presses assigned in FS dialogues.
32FE	1	Hot Key change counter, incremented by FSUIPC whenever any of the Hot Keys defined in the table at offset 3210 occurs and therefore has its flag set by FSUIPC.

32FF	1	Hot Button change counter, incremented by FSUIPC whenever any of the Hot Buttons defined in the table at offset 2910 changes state in the right way, and therefore has its flag set by FSUIPC.
3300	2	[FS2k, CFS2 *and* FS98, as applicable]Additional radio and autopilot status indicators (read only access). Allocation by bits which are set when true. Bit 0 = least significant (value 1):0 = reserved 1 = good NAV1 2 = good NAV2 3 = good ADF1 4 = NAV1 has DME 5 = NAV2 has DME 6 = NAV1 is ILS 7 = AP NAV1 radial acquired 8 = AP ILS LOC acquired (incl BC—see 10) 9 = AP ILS GS acquired 10=AP ILS LOC is BC 11=good ADF2 (FS2004) 12=NAV2 is ILS 13–15 reserved
3302	2	Assorted FSUIPC options, set by user parameters: read-only via the IPC. Those allocated so far (bits from least significant): 0 = Static (i.e. non-scrolling) messages sent to FS are to be displayed in white rather than the default red. (If AdvDisplay is installed it must be version 2.11 or later for this option).1 = This is FS2004 (or later) but MakeItVersionFS2002 has been used in the INI to "fiddle" the reported value in 3308 to show FS2002.
3304	4	FSUIPC version number:The HIWORD (i.e. bytes 3306-7) gives the main version as BCD x 1000: e.g. 0x1998 for 1.998The LOWORD (bytes 3304-5) gives the Interim build letter: 0=none, 1-26=a-z: e.g. 0x0005 = 'e'

3308	2	FS version, as determined by FSUIPC: Currently only one of these:1 = FS982 = FS2000 3 = CFS2 4 = CFS1 5 = reserved 6 = FS2002 7 = FS2004 "A Century of Flight" *(see also bit 1 in offset 3302 above)*
330A	2	Fixed *read-only* pattern, set to 0xFADE. Use this to check that the values in 3304-3308 are valid (Note: the supplied LIB writes its version number here, but this has no effect and is only for assistance when viewing LOG files).
330E	1	Count of external IPC applications seen connecting since the session began. Keeps increasing till it gets to 255 then stays at that value.
330F	17	Reserved area for WideFS KeySend facility (version 4.23 and later)

3320	2	This word is used to activate a facility supported by WideFS to automatically shut down the PCs running WideServer (i.e. this one) and WideClient. The .ini files of each WideFS component which is to activate the shutdown needs the "AllowShutdown=Yes" parameter included. The application performing the shut down action must write 0xABCD to this offset.WideServer automatically resets this word to zero 5 seconds afterwards, before it initiates its own PC's shutdown if specified. This delay is to ensure the Clients get the message before the host dies, and the clearing to zero is done so that the survivors can continue.Since version 5.30, WideFS also provides the lesser option "AllowShutdown=App" which only closes down the WideClient or, in the case of WideServer, the FS session. Later still the "AppOnly" variation was added, which keeps WideClient running, ready to reload the applications when FS restarts. A hot key facility to invoke this WideFS shutdown from the FS keyboard is added in version 5.301 of WideServer. Since version 6.40 of WideFS the pattern 0xDCBA written here invokes a "close application" action. On all WideFS PCs with any form of shutdown allowed, this pattern closes only those applications loaded by WideFS and leaves WideClient running ready to reload them. On the Server, if it is allowed, it closes FS itself. A hot key facility is provided for this variant, too.
3322	2	WideServer version number, if running *and* if version 5.00 or later. Otherwise this is zero.This is a BCD value giving the version number x 1000, for example 0x5110 means version 5.110.See also offset 333C.
3324	4	This is the altimeter reading in feet (or metres, if the user is running with the preference for altitudes in metres), as a 32-bit signed integer. Please check offset 0C18 to determine when metres are used (0C18 contains '2').The same value can be calculated from the actual altitude and the difference between the QNH and the altimeter "Kollsman" pressure setting, but this value ensures agreement.
3328	2	Elevator Axis input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310A).
332A	2	Aileron Axis input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310A).
332C	2	Rudder Axis input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310A).

332E	2	Throttle Axis input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310A). This is the single throttle, applied to whichever engines are denoted by the bits in offset 0888.
3330	2	Throttle 1 Axis input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310A).
3332	2	Throttle 2 Axis input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310A).
3334	2	Throttle 3 Axis input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310A).
3336	2	Throttle 4 Axis input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310A).
3338	2	Elevator Trim Axis input value, post calibration, just before being applied to the simulation (if allowed to by the byte at offset 310A).
333A	2	Throttle lower limit (FS2002 and later only). This is normally 0 if no reverse is available, otherwise gives the reverse limit such as –4096 (for 25%). For earlier versions than FS2002 this location will be zero.
333C	2	WideFS flags: only set from version 5.50 or later of WideFS. Flags used so far are: 2^0 1 =if TCP is being used, 0 if SPX2^1 1 if connected at all, 0 is waiting for connections See offset 3322 for WideFS version number, which also confirms that WideServer is installed and running.
333E	2	Weather clear count: This is incremented every time FS's "clear weather" routine is called, for whatever reason.
3340	36	This area is used for externally signalled "joystick button" control. Each DWORD or 32 bits represents one "joystick" with 32 buttons. If an external program sets or clears a bit in any of these 9 DWORDS the "Buttons" page in FSUIPC will register the change as a button operation on one of Joystick numbers 64 to 73 (corresponding to the 9 DWORDs). So, FSUIPC can be used to program whatever actions the user wants.

3364	1	FS2004 "Ready to Fly" indicator. This is non-zero when FS is loading, or reloading a flight or aircraft or scenery, and becomes zero when flight mode is enabled (even if the simulator is paused or in Slew mode).
3365	1	"In Menu or Dialog" flag. This byte is non-zero when FS is effectively paused because the user accessed the Menu, or is in a dialogue resulting from menu or other selection activity.The non-zero values are:1 = FS frozen because of menu activity 2 = FS frozen because of modal dialogue Both bits may be set in dialogues accessed through the menu. Note that the 2 bit may flicker a little on exit from the dialogue, due to the way it is detected. In FS2004 the byte at 3364 should also be considered when using this flag—there are some conditions, like reloading scenery or aircraft or flights, which effectively freeze the sim in ways not detectable except by the method used for the "ready to fly" indicator.
3366	1	This byte reflects the FS2004 "Engine on Fire" flags. I'm not sure if FS actually simulates such events, but it appears to have allocated Gauge-accessible variables to indicate them. This byte uses bits 2^0–2^3 as flags for fires in Engines 1 to 4, respectively.
3367	1	This byte shows doors that are open (FS2004 only). At present this only provides bit 2^0 for the main doors.
336C	2	Frame rate calling counter. This is simply a number that is incremented each time FSUIPC is entered from FS using the entry related to frame rates.
336E	2	Toe brake axes have been selected as "Set" in FSUIPC's joystick pages if this is non-zero. Byte 336E is non-zero for Left Brake, byte 336F for Right Brake.Note that this only means that the user has told FSUIPC to handle the toe braking, by pressing "Set". It will only actually do so if it sees brake messages.
3370	4	Four single byte PFC driver "alive" counters: 3370 = COM port read thread alive and running3371 = Elevator trim motor action (0=off, 1=up, 2=dn) 3372 = COM port write thread alive 3373 = Main FS chain alive N.B. without the main FS chain running the other three aren't maintained in any case, so mean

		nothing.
3374	4	This is the "live" millisecond count as used in the FSUIPC Log. It is updated on each FS chained call to FSUIPC.
3378	4	This is the millisecond timestamp value of the most recent line in the current FSUIPC Log. It is updated when each line is logged.
337C	1	Propeller de-ice switch, (1 = on, 0 = off), read for state, write to control [FS2002+]. *This should operate with aircraft defined to have the facility, but in fact it merely reflects the older Anti-Ice switch. The* TOGGLE_PROP_DEICE *control does nothing.*
337D	1	Structural de-ice switch, (1 = on, 0 = off), read for state, write to control [FS2002+]. *Although this is documented in both FS2002 and FS2004 panel SDKs, with a token value and an FS control, it appears to do nothing. Possibly it needs some action in the AIR file or Aircraft.CFG, but there's nothing in the official documentation.*
337E	2	FSUIPC activity count. Simply a number that is incremented every time FSUIPC receives a call or message from Flight Simulator. This can be used through WideFS to check if FS is still active, for example. Note that when FS is loading aircraft or scenery/textures, this value may not change for many seconds as FSUIPC is then not getting any processor time at all.
3380	128	Message text area, used by AdvDisplay.dll for a copy of the ADVenture text display: useful for programs wishing to display the adventure texts on a separate PC, via WideFS. The text is truncated if longer than 127 characters, there always being a zero terminator provided.You can also *write* messages to this area, always zero terminated, for display on the FS windshield or via AdvDisplay if it is running. After placing the message text, you must write the 16-bit timer value to offset 32FA to make FSUIPC send the message through to FS (see 32FA above).
3470	8	Ambient wind X component, double float (FS2002+)
3478	8	Ambient wind Y component, double float (FS2002+).In FS2004 (only), values written here are sustained by FSUIPC for up to 14 seconds, or until another value is written. This can be used by applications to provide things like lift for glider soaring, or fast varitions to emulate vertical turbulence. The values written here are *not* subject to FSUIPC's smoothing, and won't be reflected in any normal weather read-outs like ATIS.

3480	8	Ambient wind Z component, double float (FS2002+)
3488	8	Ambient wind velocity, double float (FS2002+)
3490	8	Ambient wind direction, double float (FS2002+)
3498	8	Ambient pressure, double float (FS2002+). This is accurate in FS2004, but suspicious in FS2002.
34A0	8	Sea level pressure (QNH), double float (FS2002+)
34A8	8	Ambient temperature, double float (FS2002+)
3542	2	Standby altimeter pressure setting ("Kollsman" window). As millibars (hectoPascals) * 16. [*This is used by FSUIPC to maintain offset 3544. It is not used by FS at all*]
3544	4	This is the standby altimeter reading in feet (or metres, if the user is running with the preference for altitudes in metres), as a 32-bit signed integer. Please check offset 0C18 to determine when metres are used (0C18 contains '2').This value is maintained by FSUIPC using the pressure setting supplied in offset 3542. It isn't used in FS itself, but is supplied for additional gauges and external altimeters so that the standby can be kept at the correct (or last notified) QNH whilst the main altimeter is used for Standard settings (for airliners flying Flight Levels).
3548	8	Horizon bars offset, as a percentage of maximum, in floating point double format. (–100.0 down to +100.0 up). On the default Cessnas the maximum offset is 10 degrees. [Read only on FS2004]
3590	4	Engine 1 Fuel Valve, 1 = open, 2 = closed. Can write to operate. [FS2002+]
3594	4	Engine 2 Fuel Valve, 1 = open, 2 = closed. Can write to operate. [FS2002+]
3598	4	Engine 3 Fuel Valve, 1 = open, 2 = closed. Can write to operate. [FS2002+]
359C	4	Engine 4 Fuel Valve, 1 = open, 2 = closed. Can write to operate. [FS2002+]
35A0	8	Airspeed Mach value, double float (FS2002+)
35A8	8	Reciprocating engine 4 manifold pressure, in lbs/sqft, as a double (FLOAT64). Divide by 70.7262 for inches Hg.

35B0	8	Engine 4 cowl flap position, as a double float: 0.0=fully closed, 1.0=fully open. Can be used to handle position and set it. . [FS2000–FS2004 only]
35D0	4	Reciprocating engine 4, left magneto select (1 = on, 0 = off)
35D4	4	Reciprocating engine 4, right magneto select (1 = on, 0 = off)
35D8	8	Reciprocating engine 4 fuel/air mass ratio, as a double (FLOAT64).
35E0	8	Reciprocating engine 4 brake power in ft-lbs, as a double (FLOAT64). Divide by 550 for HP.
35E8	8	Reciprocating engine 4 carburettor temperature, in degrees Rankine, as a double (FLOAT64). [*FSUIPC version 3.401 or later*]
3628	8	Reciprocating engine 4 fuel pressure (double or FLOAT64)
3640	4	Reciprocating engine 4 tank selector, using the same numbers as 0AF8.
3648	4	Reciprocating engine 4, number of fuel tanks supplying fuel.
3654	4	Reciprocating engine 4 fuel available flag (0 or 1).
3668	8	Reciprocating engine 3 manifold pressure, in lbs/sqft, as a double (FLOAT64). Divide by 70.7262 for inches Hg.
3670	8	Engine 3 cowl flap position, as a double float: 0.0=fully closed, 1.0=fully open. Can be used to handle position and set it. [FS2000–FS2004 only]
3690	4	Reciprocating engine 3, left magneto select (1 = on, 0 = off)
3694	4	Reciprocating engine 3, right magneto select (1 = on, 0 = off)
3698	8	Reciprocating engine 3 fuel/air mass ratio, as a double (FLOAT64).
36A0	8	Reciprocating engine 3 brake power in ft-lbs, as a double (FLOAT64). Divide by 550 for HP.
36A8	8	Reciprocating engine 3 carburettor temperature, in degrees Rankine, as a double (FLOAT64).

		[*FSUIPC version 3.401 or later*]
36E8	8	Reciprocating engine 3 fuel pressure (double or FLOAT64)
3700	4	Reciprocating engine 3 tank selector, using the same numbers as 0AF8.
3708	4	Reciprocating engine 3, number of fuel tanks supplying fuel.
3714	4	Reciprocating engine 3, fuel available flag (0 or 1).
3728	8	Reciprocating engine 2 manifold pressure, in lbs/sqft, as a double (FLOAT64). Divide by 70.7262 for inches Hg.
3730	8	Engine 2 cowl flap position, as a double float: 0.0=fully closed, 1.0=fully open. Can be used to handle position and set it. . [FS2000–FS2004 only]
3750	4	Reciprocating engine 2, left magneto select (1 = on, 0 = off)
3754	4	Reciprocating engine 2, right magneto select (1 = on, 0 = off)
3758	8	Reciprocating engine 2 fuel/air mass ratio, as a double (FLOAT64).
3760	8	Reciprocating engine 2 brake power in ft-lbs, as a double (FLOAT64). Divide by 550 for HP.
3768	8	Reciprocating engine 2 carburettor temperature, in degrees Rankine, as a double (FLOAT64). [*FSUIPC version 3.401 or later*]
37A8	8	Reciprocating engine 2 fuel pressure (double or FLOAT64)
37C0	4	Reciprocating engine 2 tank selector, using the same numbers as 0AF8.
37C8	4	Reciprocating engine 2, number of fuel tanks supplying fuel.
37D4	4	Reciprocating engine 2, fuel available flag (0 or 1).
37E8	8	Reciprocating engine 1 manifold pressure, in lbs/sqft, as a double (FLOAT64). Divide by 70.7262 for inches Hg.

37F0	8	Engine 1 cowl flap position, as a double float: 0.0=fully closed, 1.0=fully open. Can be used to handle position and set it. [FS2000–FS2004 only]
3810	4	Reciprocating engine 1, left magneto select (1 = on, 0 = off)
3814	4	Reciprocating engine 1, right magneto select (1 = on, 0 = off)
3818	8	Reciprocating engine 1 fuel/air mass ratio, as a double (FLOAT64).
3820	8	Reciprocating engine 1 brake power in ft-lbs, as a double (FLOAT64). Divide by 550 for HP.
3828	8	Reciprocating engine 1 carburettor temperature, in degrees Rankine, as a double (FLOAT64). [*FSUIPC version 3.401 or later*]
3868	8	Reciprocating engine 1 fuel pressure (double or FLOAT64)
3880	4	Reciprocating engine 1 tank selector, using the same numbers as 0AF8.
3888	4	Reciprocating engine 1, number of fuel tanks supplying fuel.
3894	4	Reciprocating engine 1, fuel available flag (0 or 1).
38A8	8	General engine 4 throttle lever position, as a double (FLOAT64). 0.0=idle, 1.0=max
38B0	8	General engine 4 mixture lever position, as a double (FLOAT64). 0.0=cutoff, 1.0=full rich
38B8	8	General engine 4 propeller lever position, as a double (FLOAT64). 0–1
3918	8	General engine 4 oil temperature in degrees Rankine, as a double (FLOAT64).
3920	8	General engine 4 oil pressure in lbs/sqft, as a double (FLOAT64). Divide by 144 for PSI.
3930	8	General engine 4 EGT in degrees Rankine, as a double (FLOAT64). Convert to Fahrenheit by Rankine – 459.67. FS default gauges show Centigrade.
3938	4	Engine 4 generator switch, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]

393C	4	Engine 4 generator active, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]
3958	4	Engine 4 fuel pump switch, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]
3968	8	General engine 3 throttle lever position, as a double (FLOAT64). 0.0=idle, 1.0=max
3970	8	General engine 3 mixture lever position, as a double (FLOAT64). 0.0=cutoff, 1.0=full rich
3978	8	General engine 3 propeller lever position, as a double (FLOAT64). 0–1
39D8	8	General engine 3 oil temperature in degrees Rankine, as a double (FLOAT64).
39E0	8	General engine 3 oil pressure in lbs/sqft, as a double (FLOAT64). Divide by 144 for PSI.
39F0	8	General engine 3 EGT in degrees Rankine, as a double (FLOAT64). Convert to Fahrenheit by Rankine – 459.67. FS default gauges show Centigrade.
39F8	4	Engine 3 generator switch, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]
39FC	4	Engine 3 generator active, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]
3A18	4	Engine 3 fuel pump switch, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]
3A28	8	General engine 2 throttle lever position, as a double (FLOAT64). 0.0=idle, 1.0=max
3A30	8	General engine 2 mixture lever position, as a double (FLOAT64). 0.0=cutoff, 1.0=full rich
3A38	8	General engine 2 propeller lever position, as a double (FLOAT64). 0–1
3A98	8	General engine 2 oil temperature in degrees Rankine, as a double (FLOAT64).
3AA0	8	General engine 2 oil pressure in lbs/sqft, as a double (FLOAT64). Divide by 144 for PSI.
3AB0	8	General engine 2 EGT in degrees Rankine, as a double (FLOAT64). Convert to Fahrenheit by Rankine – 459.67. FS default gauges show Centigrade.
3AB8	4	Engine 2 generator switch, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]

3ABC	4	Engine 2 generator active, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]
3AD8	4	Engine 2 fuel pump switch, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]
3AE8	8	General engine 1 throttle lever position, as a double (FLOAT64). 0.0=idle, 1.0=max
3AF0	8	General engine 1 mixture lever position, as a double (FLOAT64). 0.0=cutoff, 1.0=full rich
3AF8	8	General engine 1 propeller lever position, as a double (FLOAT64). 0–1
3B58	8	General engine 1 oil temperature in degrees Rankine, as a double (FLOAT64).
3B60	8	General engine 1 oil pressure in lbs/sqft, as a double (FLOAT64). Divide by 144 for PSI.
3B70	8	General engine 1 EGT in degrees Rankine, as a double (FLOAT64). Convert to Fahrenheit by Rankine – 459.67. FS default gauges show Centigrade.
3B78	4	Engine 1 generator switch, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]
3B7C	4	Engine 1 generator active, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]
3B98	4	Engine 1 fuel pump switch, a 32-bit BOOL (0 = off, 1= on) [FS2000–FS2004 only]
3BA0	8	The tailhook position, as a double floating point value (0.0=fully retracted, 1.0=fully lowered). [FS2002 and FS2004 only]
3BA8	44	Area used only in PFC.DLL. Please see its documentation for details.
3BD2	2	This is a 16-bit counter that is incremented each time a FLT file is saved in FS. This applies to flights saved through FS Flights menu, the shortcut key (;), AutoSave, and via the FSUIPC flight saving facilities. Flight filenames can be read using the path reading facility at offsets 0FF0 ff.
3BD6	18	Panel failure modes (FS2002 and FS2004 only): one byte flag/control for each of the following "partial panel" modes: 3BD6 ADF (both on FS2004)3BD7 ASI 3BD8 Altimeter 3BD9 Attitude Indicator

		3BDA COMM1 3BDB COMM2 3BDC Compass 3BDD ? (unknown) 3BDE Engine (see 0B6B for separate engines) 3BDF Fuel Indicator 3BE0 Heading Indicator 3BE1 NAV1 3BE2 NAV2 3BE3 Pitot heat 3BE4 Transponder 3BE5 Turn Co-ordinator 3BE6 Vacuum 3BE7 VSI
3BE8	8	Attitude Indicator failure timer, as a double floating point value.
3BF0	4	Attitude indicator lock indicator, 32-bit integer but probable only Boolean (0 or 1) [FS2k/CFS2 only]
3BF4	4	Low vacuum indicator, 32-bit integer but probable only Boolean (0 or 1) [FS2k/CFS2 only]
3BFA	2	Flaps dTtente increment. The full range of flap movement is 0–0x3FFF (16383). Each dTtente position or "notch" is spaced equally over this range, no matter what flap angle is represented—a table in the AIR file gives those. To obtain the number of dTtentes, divide this increment value into 16383 and add 1. For example 2047 (0x7FF) would be the increment for 9 positions as on the default FS2K 737.
3BFC	4	Zero Fuel Weight, lbs * 256. This is the aircraft weight plus the payload weight, minus fuel. In FS2004 this changes as the payload is adjusted.

3C00	256	Pathname of the current AIR file, excluding the FS main path (see 3E00), but including everything from "Aircraft\..." to the final "...air". This is zero padded to fill the 256 bytes available.When this changes the 16-bit counter at 32FC is incremented, so interested programs don't have to keep on reading the whole 256 bytes to check.
3D00	256	Name of the current aircraft (from the "title" parameter in the AIRCRAFT.CFG file). Valid for FS2K only.
3E00	256	Path of the Flight Simulator installation, down to and including the FS main folder and a following \ character. If the PC is on a Network and the drive or path is shared, then the full UNC (universal naming convention) path is given. Examples are: D:\FS2000\ (non-Network)\\MyMainPC\drived \FS2000\ (Network, named PC and named shared drive))
3F00	2	To load or save a Flight (FS2000/2002) or Situation (FS98) you first set up the pathname (and optional description) at offset 3F04 below, then write here. Write one of these values: 0 to simply load the specified flight/situation.1 to save the flight/situation with an empty description 257 to save the flight/situation with a description as well This facility works on FS98, FS2000 and FS2002 but not CFS1 nor CFS2. Also note that for Loading you don't have to have the files in the "Pilots" or "Situatio" folder (or "flights" for FS2002)—any folder within the FS main folder can be used to load Flights/Situations. However, they can only be saved in "Pilots" (FS98/FS2000) or "Flights\MyFlts" (FS2002), and this folder is assumed by default. If you are Loading a file, please allow time for the file to load before expecting any further meaningful response across the FSUIPC interface. FSUIPC will probably not be able to respond for several seconds even on the fastest machines.
3F02	2	FLT/STN file loading counter (incremented by FSUIPC whenever the FLT or STN file, as defined at offset 3F04 changes or is reloaded). This word is read only—attempting to write here will do no harm.
3F04	252	READ: (FS2000/2002/2004 only)Pathname of the currently loaded FLT file, excluding the FS main path (see 3E00), but including everything from "Pilots\..." or "Situatio\..." (or "Flights\" in FS2002), or whatever, to the final ".flt" or ".stn". This is zero padded to fill the 252 bytes available, or truncated if longer.When this changes (or simply reloaded) the 16-bit counter at 3F02 is incremented, so interested programs don't have to keep on reading the whole 252 bytes to check.

		WRITE: (FS2000, FS2002, FS2004 and FS98) Write the file name for the FLT+WX (FS2000/FS2002) or STN (FS98) file you wish to Load or Save. The name can include the final ".flt" or ".stn" but this will be discarded in any case. You can specify a folder (existing within FS's main folder) such as "Pilots\" or "Situatio\" ("Flights\MyFlts\" in FS2002) for Loading, but files can only be saved to "Pilots\" in FS98/2000, "Flights\MyFlts\" in FS2002 and in your documents folder in FS2004. If you give a path for saving, it is discarded. There must be a zero terminator. If you are writing the file, a description can also be specified, following the pathname and its zero terminator. Obviously this is limited by the space available. It must also be terminated by a zero byte, and indicated in the value written to 3F00 above. See 3F00 above for details of actually Loading or Saving the Flight or Situation so identified.
4000	5632	*Reserved*
5600	2560	*Available for applications: apply for allocations to Pete Dowson*
6000	512	FS2004 GPS data area—only known offsets listed below:
6004	4	GPS flags (bits numbered from least significant):0 ? 1 Active Plan 2 Active Way point 3 Arrived 4 ? 5 Direct To 6 ? 7 Active way point locked 8 Approach loaded 9 Approach Active
6010	8	FS2004 GPS: aircraft latitude, floating point double, in degrees (+ve = N, –ve = S).
6018	8	FS2004 GPS: aircraft longitude, floating point double, in degrees (+ve = E, –ve = W).
6020	8	FS2004 GPS: aircraft altitude, floating point double, in metres.
6028	8	FS2004 GPS: magnetic variation at aircraft, , floating point double, in radians (add to magnetic for

		true, subtract from true for magnetic).
6030	8	FS2004 GPS: aircraft ground speed, floating point double, metres per second.
6038	8	FS2004 GPS: aircraft true heading, floating point double, in radians.
6040	8	FS2004 GPS: aircraft magnetic track, floating point double, in radians.
6048	8	FS2004 GPS: distance to next way point, floating point double, in metres.
6050	8	FS2004 GPS: magnetic bearing to next way point, floating point double, in radians.
6058	8	FS2004 GPS: cross track error, floating point double, in metres.
6060	8	FS2004 GPS: required true heading, floating point double, in radians.
6078	8	FS2004 GPS: aircraft vertical speed (*Needs checking*)
6080	1	FS2004 GPS: previous way point valid flag (=0 if not valid)
6081	6?	FS2004 GPS: string ID of previous way point, zero terminated
608C	8	FS2004 GPS: previous way point latitude, floating point double, in degrees (+ve = N, –ve = S).
6094	8	FS2004 GPS: previous way point longitude, floating point double, in degrees (+ve = E, –ve = W).
609C	8	FS2004 GPS: previous way point aircraft altitude, floating point double, in metres.
60A4	6?	FS2004 GPS: string ID of next way point, zero terminated
60AC	8	FS2004 GPS: next way point latitude, floating point double, in degrees (+ve = N, –ve = S).
60B4	8	FS2004 GPS: next way point longitude, floating point double, in degrees (+ve = E, –ve = W).
60BC	8	FS2004 GPS: next way point aircraft altitude, floating point double, in metres.
60E4	4	FS2004 GPS: Next way point ETE as 32-bit integer, in seconds

60E8	4	FS2004 GPS: Next way point ETA as 32-bit integer in seconds, local time
60FC	4	FS2004 GPS: Approach mode, as 32-bit integer (*needs checking*)
6100	4	FS2004 GPS: Approach way point type, as 32-bit integer (*needs checking*)
6104	4	FS2004 GPS: Approach segment type, as 32-bit integer (*needs checking*)
6108	1	FS2004 GPS: Approach mode, flag indicating approach waypoint is the runway (*needs checking*)
6120	4	FS2004 GPS: Flight Plan, total number of waypoints, as 32-bit integer
6128	4	FS2004 GPS: Approach way point count, as 32-bit integer (*needs checking*)
613C	4	FS2004 GPS: Approach way point index, as 32-bit integer (*needs checking*)
6150	4	FS2004 GPS: Approach transition index, as 32-bit integer (*needs checking*). –1 means not valid.
615C	1	FS2004 GPS: Approach is missed flag (*needs checking*)
6160	4	FS2004 GPS: Approach type (*needs checking*)
6168	4	FS2004 GPS: Approach time zone deviation, as 32-bit integer (*needs checking*)
616C	4	FS2004 GPS: Current way point index, starting at 1, as 32-bit integer
6170	4	FS2004 GPS: Approach current way point index, as 32-bit integer (*needs checking*)
6198	4	FS2004 GPS: Destination ETE as 32-bit integer, in seconds
619C	4	FS2004 GPS: Destination ETA as 32-bit integer, in seconds, local time
6200	1088	*Reserved*
6640	192	*Available for applications: apply for allocations to Pete Dowson*
6700	1536	*Reserved*

6D00	3712	*Available for applications: apply for allocations to Pete Dowson*
7B80	1024	*Reserved*
8000	768	*Reserved for FSUIPC and WideFS internals*
8300	11520	*Available for applications: apply for allocations to Pete Dowson*
B000	4096	*Reserved for future improvements*
C000	4096	FS2004 New Weather Interface areas, allowing both local and global weather data to be read and written.(details of the NWI are provided separately in the SDK)
D000	2048	FS2004 A.I. ground aircraft additional traffic data (see section on AI Traffic earlier)
D800	2048	FS2004 A.I. airborne aircraft additional traffic data (see section on AI Traffic earlier)
E000	4096	FS2002/4 A.I. ground aircraft traffic data (see section on AI Traffic earlier)
F000	4096	FS2002/4 A.I. airborne aircraft traffic data (see section on AI Traffic earlier)

Table of additional PANELS variables for FS2000

Offset	Token Name	Token Id	Type
2048	TURB_ENGINE_1_AFTERBURNER	632	BOOL
2054	TURB_ENGINE_1_TANK_SELECTOR	635	SINT32
2058	TURB_ENGINE_1_TANKS_USED	636	SINT32
2068	TURB_ENGINE_1_FUEL_AVAILABLE	639	BOOL
2074	TURB_ENGINE_1_PCT_AREA	640	FLOAT64
2084	TURB_ENGINE_1_VIBRATION	642	FLOAT64

2148	TURB_ENGINE_2_AFTERBURNER	651	BOOL
2154	TURB_ENGINE_2_TANK_SELECTOR	654	SINT32
2158	TURB_ENGINE_2_TANKS_USED	655	SINT32
2168	TURB_ENGINE_2_FUEL_AVAILABLE	658	BOOL
2174	TURB_ENGINE_2_PCT_AREA	659	FLOAT64
2184	TURB_ENGINE_2_VIBRATION	661	FLOAT64
2248	TURB_ENGINE_3_AFTERBURNER	670	BOOL
2254	TURB_ENGINE_3_TANK_SELECTOR	673	SINT32
2258	TURB_ENGINE_3_TANKS_USED	674	SINT32
2268	TURB_ENGINE_3_FUEL_AVAILABLE	677	BOOL
2274	TURB_ENGINE_3_PCT_AREA	678	FLOAT64
2284	TURB_ENGINE_3_VIBRATION	680	FLOAT64
2348	TURB_ENGINE_4_AFTERBURNER	689	BOOL
2354	TURB_ENGINE_4_TANK_SELECTOR	692	SINT32
2358	TURB_ENGINE_4_TANKS_USED	693	SINT32
2368	TURB_ENGINE_4_FUEL_AVAILABLE	696	BOOL
2374	TURB_ENGINE_4_PCT_AREA	697	FLOAT64
2384	TURB_ENGINE_4_VIBRATION	699	FLOAT64
2420	PROPELLER_1_FEATHERING_INHIBIT	704	BOOL

2424	PROPELLER_1_FEATHERED	705	BOOL
2428	PROPELLER_1_SYNC_DELTA_LEVER	706	FLOAT64
2430	PROPELLER_1_AUTOFEATHER_ARMED	707	BOOL
2520	PROPELLER_2_FEATHERING_INHIBIT	712	BOOL
2524	PROPELLER_2_FEATHERED	713	BOOL
2528	PROPELLER_2_SYNC_DELTA_LEVER	714	FLOAT64
2530	PROPELLER_2_AUTOFEATHER_ARMED	715	BOOL
2620	PROPELLER_3_FEATHERING_INHIBIT	720	BOOL
2624	PROPELLER_3_FEATHERED	721	BOOL
2628	PROPELLER_3_SYNC_DELTA_LEVER	722	FLOAT64
2630	PROPELLER_3_AUTOFEATHER_ARMED	723	BOOL
2720	PROPELLER_4_FEATHERING_INHIBIT	728	BOOL
2724	PROPELLER_4_FEATHERED	729	BOOL
2728	PROPELLER_4_SYNC_DELTA_LEVER	730	FLOAT64
2730	PROPELLER_4_AUTOFEATHER_ARMED	731	BOOL
2824	TOTAL_LOAD_AMPS	750	FLOAT64
282C	BATTERY_LOAD	751	FLOAT64
2834	BATTERY_VOLTAGE	752	FLOAT64
2840	MAIN_BUS_VOLTAGE	753	FLOAT64

2848	MAIN_BUS_AMPS	754	FLOAT64
2850	AVIONICS_BUS_VOLTAGE	755	FLOAT64
2858	AVIONICS_BUS_AMPS	756	FLOAT64
2860	HOT_BATTERY_BUS_VOLTAGE	757	FLOAT64
2868	HOT_BATTERY_BUS_AMPS	758	FLOAT64
2870	BATTERY_BUS_VOLTAGE	759	FLOAT64
2878	BATTERY_BUS_AMPS	760	FLOAT64
2880	GENERATOR_ALTERNATOR_1_BUS_VOLTAGE	761	FLOAT64
2888	GENERATOR_ALTERNATOR_1_BUS_AMPS	762	FLOAT64
2890	GENERATOR_ALTERNATOR_2_BUS_VOLTAGE	763	FLOAT64
2898	GENERATOR_ALTERNATOR_2_BUS_AMPS	764	FLOAT64
28A0	GENERATOR_ALTERNATOR_3_BUS_VOLTAGE	765	FLOAT64
28A8	GENERATOR_ALTERNATOR_3_BUS_AMPS	766	FLOAT64
28B0	GENERATOR_ALTERNATOR_4_BUS_VOLTAGE	767	FLOAT64
28B8	GENERATOR_ALTERNATOR_4_BUS_AMPS	768	FLOAT64
2A00	ELEVON_1_DEFLECTION	809	FLOAT64
2A08	ELEVON_2_DEFLECTION	810	FLOAT64
2A10	ELEVON_3_DEFLECTION	811	FLOAT64
2A18	ELEVON_4_DEFLECTION	812	FLOAT64

2A20	ELEVON_5_DEFLECTION	813	FLOAT64
2A28	ELEVON_6_DEFLECTION	814	FLOAT64
2A30	ELEVON_7_DEFLECTION	815	FLOAT64
2A38	ELEVON_8_DEFLECTION	816	FLOAT64
2B08	HYDRAULICS1_PRESSURE_PSF	732	FLOAT64
2B1C	HYDRAULICS1_RESERVOIR_PCT	733	FLOAT64
2C08	HYDRAULICS2_PRESSURE_PSF	734	FLOAT64
2C1C	HYDRAULICS2_RESERVOIR_PCT	735	FLOAT64
2D08	HYDRAULICS3_PRESSURE_PSF	736	FLOAT64
2D1C	HYDRAULICS3_RESERVOIR_PCT	737	FLOAT64
2E08	HYDRAULICS4_PRESSURE_PSF	738	FLOAT64
2E1C	HYDRAULICS4_RESERVOIR_PCT	739	FLOAT64
2E90	STANDBY_VACUUM_CIRCUIT_ON	778	BOOL
2F00	CG_AFT_LIMIT	796	FLOAT64
2F08	CG_FWD_LIMIT	797	FLOAT64
2F10	CG_MAX_MACH	798	FLOAT64
2F18	CG_MIN_MACH	799	FLOAT64
2F20	CONCORDE_VISOR_NOSE_HANDLE	805	SINT32
2F28	CONCORDE_VISOR_POS_PCT	806	FLOAT64

2F30	CONCORDE_NOSE_ANGLE	807	FLOAT64
2F38	GEAR_POS_TAIL	808	FLOAT64
2F40	AUTOPILOT_MAX_SPEED	820	FLOAT64
2F48	AUTOPILOT_CRUISE_SPEED	821	FLOAT64
2F50	BARBER_POLE_MACH	822	FLOAT64
2F58	SELECTED_FUEL_TRANSFER_MODE	823	SINT32
2F60	HYDRAULIC_SYSTEM_INTEGRITY	824	FLOAT64
2F68	ATTITUDE_CAGE_BUTTON	825	BOOL
3420	RAD_INS_SWITCH	613	BOOL32
3424	LOW_HEIGHT_WARNING	616	BOOL32
3428	DECISION_HEIGHT	615	FLOAT64
3438	ENGINE_1_FUELFLOW_BUG_POSITION	801	FLOAT64
3440	ENGINE_2_FUELFLOW_BUG_POSITION	802	FLOAT64
3448	ENGINE_3_FUELFLOW_BUG_POSITION	803	FLOAT64
3450	ENGINE_4_FUELFLOW_BUG_POSITION	804	FLOAT64
3458	PANEL_AUTOPILOT_SPEED_SETTING	817	FLOAT64
3460	AUTOPILOT_AIRSPEED_HOLD_CURRENT	819	BOOL
34D0	G_FORCE_MAXIMUM	605	FLOAT64
34D8	G_FORCE_MINIMUM	606	FLOAT64

34E8	ENGINE1_MAX_RPM	608	UINT32
34EC	ENGINE2_MAX_RPM	609	UINT32
34F0	ENGINE3_MAX_RPM	610	UINT32
34F4	ENGINE4_MAX_RPM	611	UINT32
3550	ENGINE4_THROTTLE_LEVER_POS	233	SINT16
3552	ENGINE4_PROPELLER_LEVER_POS	234	UINT16
3554	ENGINE4_MIXTURE_LEVER_POS	235	UINT16
3556	ENGINE4_STARTER_SWITCH_POS	237	ENUM16
3558	ENGINE4_MAGNETO_LEFT	238	BOOL16
355A	ENGINE4_MAGNETO_RIGHT	239	BOOL16
3560	ENGINE3_THROTTLE_LEVER_POS	198	SINT16
3562	ENGINE3_PROPELLER_LEVER_POS	199	UINT16
3564	ENGINE3_MIXTURE_LEVER_POS	200	UINT16
3566	ENGINE3_STARTER_SWITCH_POS	202	ENUM16
3568	ENGINE3_MAGNETO_LEFT	203	BOOL16
356A	ENGINE3_MAGNETO_RIGHT	204	BOOL16
3570	ENGINE2_THROTTLE_LEVER_POS	163	SINT16
3572	ENGINE2_PROPELLER_LEVER_POS	164	UINT16
3574	ENGINE2_MIXTURE_LEVER_POS	165	UINT16

3576	ENGINE2_STARTER_SWITCH_POS	167	ENUM16
3578	ENGINE2_MAGNETO_LEFT	168	BOOL16
357A	ENGINE2_MAGNETO_RIGHT	169	BOOL16
3580	ENGINE1_THROTTLE_LEVER_POS	128	SINT16
3582	ENGINE1_PROPELLER_LEVER_POS	129	UINT16
3584	ENGINE1_MIXTURE_LEVER_POS	130	UINT16
3586	ENGINE1_STARTER_SWITCH_POS	132	ENUM16
3588	ENGINE1_MAGNETO_LEFT	133	BOOL16
358A	ENGINE1_MAGNETO_RIGHT	134	BOOL16
35B8	RECIP_ENGINE4_CARB_HEAT_POS	513	FLOAT64
35C0	RECIP_ENGINE4_ALTERNATE_AIR_POS	514	FLOAT64
35C8	RECIP_ENGINE4_COOLANT_RESERVOIR_PCT	515	FLOAT64
35F0	RECIP_ENGINE4_STARTER_TORQUE	522	FLOAT64
35F8	RECIP_ENGINE4_TURBOCHARGER_FAILED	524	BOOL
35FC	RECIP_ENGINE4_EMERGENCY_BOOST_ACTIVE	525	BOOL
3600	RECIP_ENGINE4_EMERGENCY_BOOST_ELAPSED_TIME	526	FLOAT64
3608	RECIP_ENGINE4_WASTEGATE_POS	527	FLOAT64
3610	RECIP_ENGINE4_TIT_DEGR	531	FLOAT64
3618	RECIP_ENGINE4_CHT_DEGR	532	FLOAT64

3644	RECIP_ENGINE4_TANKS_USED	540	FLAGS
3678	RECIP_ENGINE3_CARB_HEAT_POS	474	FLOAT64
3680	RECIP_ENGINE3_ALTERNATE_AIR_POS	475	FLOAT64
3688	RECIP_ENGINE3_COOLANT_RESERVOIR_PCT	476	FLOAT64
36B0	RECIP_ENGINE3_STARTER_TORQUE	483	FLOAT64
36B8	RECIP_ENGINE3_TURBOCHARGER_FAILED	485	BOOL
36BC	RECIP_ENGINE3_EMERGENCY_BOOST_ACTIVE	486	BOOL
36C0	RECIP_ENGINE3_EMERGENCY_BOOST_ELAPSED_TIME	487	FLOAT64
36C8	RECIP_ENGINE3_WASTEGATE_POS	488	FLOAT64
36D0	RECIP_ENGINE3_TIT_DEGR	492	FLOAT64
36D8	RECIP_ENGINE3_CHT_DEGR	493	FLOAT64
3704	RECIP_ENGINE3_TANKS_USED	501	FLAGS
3738	RECIP_ENGINE2_CARB_HEAT_POS	435	FLOAT64
3740	RECIP_ENGINE2_ALTERNATE_AIR_POS	436	FLOAT64
3748	RECIP_ENGINE2_COOLANT_RESERVOIR_PCT	437	FLOAT64
3770	RECIP_ENGINE2_STARTER_TORQUE	444	FLOAT64
3778	RECIP_ENGINE2_TURBOCHARGER_FAILED	446	BOOL
377C	RECIP_ENGINE2_EMERGENCY_BOOST_ACTIVE	447	BOOL
3780	RECIP_ENGINE2_EMERGENCY_BOOST_ELAPSED_TIME	448	FLOAT64

3788	RECIP_ENGINE2_WASTEGATE_POS	449	FLOAT64
3790	RECIP_ENGINE2_TIT_DEGR	453	FLOAT64
3798	RECIP_ENGINE2_CHT_DEGR	454	FLOAT64
37C4	RECIP_ENGINE2_TANKS_USED	462	FLAGS
37F8	RECIP_ENGINE1_CARB_HEAT_POS	396	FLOAT64
3800	RECIP_ENGINE1_ALTERNATE_AIR_POS	397	FLOAT64
3808	RECIP_ENGINE1_COOLANT_RESERVOIR_PCT	398	FLOAT64
3830	RECIP_ENGINE1_STARTER_TORQUE	405	FLOAT64
3838	RECIP_ENGINE1_TURBOCHARGER_FAILED	407	BOOL
383C	RECIP_ENGINE1_EMERGENCY_BOOST_ACTIVE	408	BOOL
3840	RECIP_ENGINE1_EMERGENCY_BOOST_ELAPSED_TIME	409	FLOAT64
3848	RECIP_ENGINE1_WASTEGATE_POS	410	FLOAT64
3850	RECIP_ENGINE1_TIT_DEGR	414	FLOAT64
3858	RECIP_ENGINE1_CHT_DEGR	415	FLOAT64
3870	ENGINE_PRIMER	361	FLOAT64
3884	RECIP_ENGINE1_TANKS_USED	423	FLAGS
38A0	GENERAL_ENGINE4_FAILURE	594	BOOL
38A4	RECIP_ENGINE4_COMBUSTION	523	BOOL
38C0	RECIP_ENGINE4_STARTER	518	BOOL

38C0	GENERAL_ENGINE4_STARTER	593	FLOAT64
3928	RECIP_ENGINE4_OIL_LEAK_PCT	536	FLOAT64
3940	RECIP_ENGINE4_DAMAGE_PERCENT	545	FLOAT64
3948	RECIP_ENGINE4_COMBUSTION_SOUND_PCT	543	FLOAT64
3960	GENERAL_ENGINE3_FAILURE	584	BOOL
3964	RECIP_ENGINE3_COMBUSTION	484	BOOL
3980	RECIP_ENGINE3_STARTER	479	BOOL
3980	GENERAL_ENGINE3_STARTER	583	FLOAT64
39E8	RECIP_ENGINE3_OIL_LEAK_PCT	497	FLOAT64
3A00	RECIP_ENGINE3_DAMAGE_PERCENT	506	FLOAT64
3A08	RECIP_ENGINE3_COMBUSTION_SOUND_PCT	504	FLOAT64
3A20	GENERAL_ENGINE2_FAILURE	574	BOOL
3A24	RECIP_ENGINE2_COMBUSTION	445	BOOL
3A40	RECIP_ENGINE2_STARTER	440	BOOL
3A40	GENERAL_ENGINE2_STARTER	573	FLOAT64
3AA8	RECIP_ENGINE2_OIL_LEAK_PCT	458	FLOAT64
3AC0	RECIP_ENGINE2_DAMAGE_PERCENT	467	FLOAT64
3AC8	RECIP_ENGINE2_COMBUSTION_SOUND_PCT	465	FLOAT64
3AE0	GENERAL_ENGINE1_FAILURE	564	BOOL

3AE4	RECIP_ENGINE1_COMBUSTION	406	BOOL
3B00	RECIP_ENGINE1_STARTER	401	BOOL
3B00	GENERAL_ENGINE1_STARTER	563	FLOAT64
3B68	RECIP_ENGINE1_OIL_LEAK_PCT	419	FLOAT64
3B80	RECIP_ENGINE1_DAMAGE_PERCENT	428	FLOAT64
3B88	RECIP_ENGINE1_COMBUSTION_SOUND_PCT	426	FLOAT64

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