

Space Shuttle Emergency Annunciator Panel

Version 2.14

The following is the emergency enunciator panel used on the space simulator. This, coupled with data received from the shuttle monitoring systems and computer alerts, is used to determine shuttle anomalies.

O ₂ PRESS	H ₂ PRESS	FIRE CABIN	FIRE PAYLD BAY	FUEL CELL TEMP
CABIN ATM	O ₂ HEATER TEMP	MAIN BUS UNDR VT	AC VOLTAGE	AC OVER LOAD
FREON LOOP	AV/BAY CABIN AIR	IMU	FWD RCS	RCS JET
H ₂ O LOOP	\$RB LEFT	MAIN ENGINE LEFT	LEFT RCS	RIGHT RCS
PAYLD VWARN	\$RB RIGHT	MAIN ENGINE CNTR	LEFT OM\$	RIGHT OM\$
PAYLD CAUTION	GPC	MAIN ENGINE RGHT	OM\$ KIT	OM\$ TVC
ALARM	APU TEMP	APU OVRSPD	APU UNDRSPD	HYD PRESS

0001/ /079 SM SYS SUMM 2 5 008/23:29:22
BFS 000/00:00:00

CRYO TK	1	2	3	4	5	MANF1	MANF2
H2 PRESS	208	208	206	206	206	208	207
O2 PRESS	816	815	814	814	814	815	815
HTR T1	-248	-248	-248	-248	-248		
T2	-248	-248	-248	-248	-248		

APU	1	2	3	HYD	1	2	3
TEMP EGT	942	942	942	PRESS	3064	3064	3064
B/U EGT	942	942	942	ACUM P	3080	3080	3080
DEL IN	250	250	250	RSVR 1	116	153	142
OUT	264	264	264				
GG BED	511H	511H	511H	QTY	72	74	71
INJ	1271	1271	1271	W/B			
SPEED %	99	102	101	H2O QTY	78	73	78
FUEL QTY	59	60	62	BYP VLV	BYP	BYP	BYP
PMP LK P	14	14	14				
OIL OUT P	42	42	41				
FU TK VLV							
A T	63	65	62	THERM CNTL	1	28	
B T	63	65	62	H2O PUMP P	23	63	
AV BAY	1	2	3	FREON FLOW	2384	2384	
TEMP	97	97	83	EVAP OUT T	38	38	
A4 14	27.439	27.435					
					26.324	31.873	18.48

2011/ /086 APU/HYD 4 000/02:36:12
000/00:00:00

APU	1	2	3	HYD	1	2	3
B/U EGT	313	313	310	B/U P	644	644	644
EGT	313	720	310	RSVR T	58	64	66
SPEED %	OL	OL	OL	P	65	66	66
FUEL QTY	76	77	77	QTY	74	75	73
TK P	209	210	212	ACCUM P	2616	2624	2624
OUT P	209	210	212				
TK VLV A	CL	CL	CL				
A T	61	62	62				
B	CL	CL	CL				
B T	61	62	62	W/B	1	2	3
OIL T	64	63	62				
OUT T	63	62	60	CNTR	A	A	A
OUT P	25	25	25	H2O QTY	100	100	100
GBX P	25	25	25	N2 P	2499	2506	2492
N2 P	141	142	140	T	57	58	55
BOG T	82	81	84	REG P	28	28	28
GG BED T	426	423	421	BYP VLV	BYP	BYP	BYP
PUMP/VLV				VENT T	+122L	+122L	+122L
PMP T	94	92	90	TANK T	+57	+58	+55
VLV T	114	111	107	BLR T	+60	+58	+61

Simbal Off

PWR
SEL
MNU

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Schematic

O ₂ PRESS	H ₂ PRESS	FIRE CABIN	FIRE PAYLD BAY	FUEL CELL TEMP
CABIN ATM	O ₂ HEATER TEMP	MAIN BUS UNDR VT	AC VOLTAGE	AC OVER LOAD
FREON LOOP	AV/BAY CABIN AIR	IMU	FWD RCS	RCS JET
H ₂ O LOOP	SRB LEFT	MAIN ENGINE LEFT	LEFT RCS	RIGHT RCS
PAYLD WARN	SRB RIGHT	MAIN ENGINE CNTR	LEFT OMS	RIGHT OMS
PAYLD CAUTION	GPC	MAIN ENGINE RGHT	OMS KIT	OMS TVC
ALARM	APU TEMP	APU OVRSPD	APU UNDRSPD	HYD PRESS

Annunciator Panel Warning Directory

(Left to Right, Top to Bottom)

O₂ PRESS: Indicates an O₂ tank 1, 2, 3, or 4 pressure or the O₂ kit (Tank 5) pressure out of limits.

H₂ PRESS: Indicates either an H₂ Tank 1, 2, 3, or 4 pressure or the H₂ kit (Tank 5) pressure out of limits

FIRE CABIN: Smoke and/or fire detector in the cabin has activated

FIRE PAYLD BAY: Smoke and/or fire detector in the payload bay has activated

FUEL CELL TEMP: Indicates a fuel cell 1, 2, or 3 stack temperature out of limits.

CABIN ATM: Indicates either cabin pressure, PPO₂, O₂ flow rate, or N₂ flow rate out of limits.

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O₂ HEATER TEMP: Indicates an O₂ Tank 1, 2, 3, or 4 heater temperature or O₂ kit (Tank 5) heater temperature out of limits.

MAIN BUS UNDERVOLT: Indicates main bus A, B, or C voltage is less than a specified percentage of the nominal voltage.

AC VOLTAGE: Indicates AC bus 1, 2, or 3 phase A, B, or C out of limits.

AC OVERLOAD : Indicates an inverter 1, 2, or 3 phase A, B, or C output of 225 percent overload for 20 sec or 300 percent for 4 to 6 sec.

FREON LOOP: Indicates a low Freon loop 1 or 2 flow rate or a temperature out of limits.

AV BAY/CABIN AIR: Indicates out of limits condition on cabin fan DP, AV Bay 1, 2, or 3 air out temp, or cabin heat exchanger air temp.

IMU: Indicates detection of an inertial measurement unit (IMU) failure or dilemma.

FWD RCS: Indicates detection of an out of limits condition on a forward RCS oxidizer tank ullage pressure, fuel tank ullage pressure, or forward oxidizer or fuel leak.

RCS JET: Indicates detection of an RCS jet failed on, failed off, or leaking.

H₂O LOOP: Indicates an out of limits condition on H₂O loop 1 or 2 pump out pressure.

SRB LEFT: Indicates detection of a left Solid Rocket Booster engine abnormal status (fail to ignite, or early shutdown) condition

MAIN ENGINE LEFT: Indicates detection of a left main engine pod fuel tank ullage pressure out of limits, or an engine abnormal (main engine fail to ignite, or early shutdown) condition.

LEFT RCS: Indicates detection of a left RCS oxidizer, fuel tank ullage pressure out of limits, or left oxidizer or fuel leak.

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RIGHT RCS: Indicates detection of a right RCS oxidizer, fuel tank ullage pressure out of limits, or right oxidizer or fuel tank leak.

PAYLOAD WARNING: Indicates detection of up to five payload parameter inputs out of limits.

SRB RIGHT: Indicates detection of a right Solid Rocket Booster engine abnormal status (fail to ignite, or early shutdown) condition

MAIN ENGINE CENTER: Indicates detection of a center main engine pod fuel tank ullage pressure out of limits, or an engine abnormal (main engine fail to ignite, or early shutdown) condition.

LEFT OMS: Indicates detection of a left OMS pod oxidizer, fuel tank ullage pressure out of limits, or an engine abnormal (OMS engine fail to cutoff, fail to ignite, or early shutdown) condition.

RIGHT OMS: Indicates detection of a right OMS pod oxidizer, fuel tank ullage pressure out of limits, or an engine abnormal (OMS engine fail to ignite, or early shutdown) condition.

PAYLOAD CAUTION: Indicates detection of a payload parameter input out of limits.

GPC: Indicates General Purpose Computer 1, 2, 3, 4, or 5 has determined itself failed and issued a self-fail discrete alarm.

MAIN ENGINE RIGHT: Indicates detection of a right main engine pod fuel tank ullage pressure out of limits, or an engine abnormal (main engine fail to ignite, or early shutdown) condition.

OMS KIT: Indicates detection of an OMS kit oxidizer or fuel tank ullage pressure out of limits.

OMS TVC: Indicates detection of an OMS pitch or yaw gimbal failure. An OMS TVC failure may indicate a failure in the GPC. OMS TVC failure may precipitate a LEFT or RIGHT OMS failure.

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APU TEMP: Indicates an APU 1, 2, or 3 exhaust gas temperature or lube oil temperature out of limits.

APU OVERSPEED: Indicates an APU 1, 2, or 3 speed greater than a specified percentage of the designed speed.

APU UNDERSPEED: Indicates an APU 1, 2, or 3 speed less than a specified percentage of the designed speed.

HYD PRESS: Indicates a hydraulics system 1, 2, or 3 supply pressure out of limits.