

# GCS-2000 Ground Control Station

- 3 Operator Stations. Pilot; Commander & Observer.
- LCD display screens for video and MMD.
- Rack mounted power distribution buses.
- Hot-swappable PC's for redundancy.
- -Truck- mounted for mobility.
- Standard military shelter.
- Remote linking to ATPS-2000 Antenna Tracking System.



The GCS-2000 Ground Control Station comprises three operator workstation consoles located in an air-conditioned, truck-mounted, shelter.

These consoles are :

- Pilot Workstation
- Mission Commander Workstation
- Observer Workstation

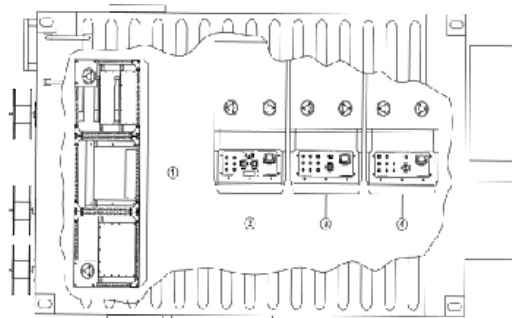
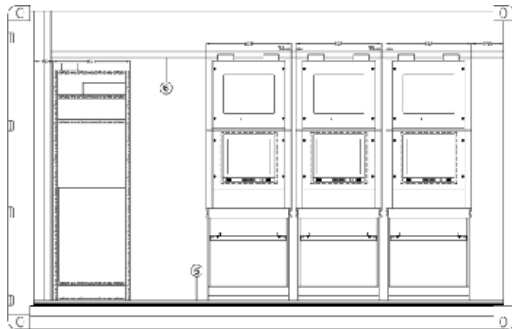
Each console has its own PC, tele-command link interface and monitors for data and video from the UAV. System redundancy is enhanced through a central server and net-centric LAN link that allows C4I transmission and reception from the remote ATPS-2000 AZ/EL antenna pedestal.

The rugged system was developed to be transported in a HMMWV shelter. Eye bolts are provided for lifting, and stow pins inhibit shelter motion during transportation. The system is equipped for reception of data and video downlinks. No direct transmissions take place from the GCS-2000 to ensure operator safety in the event of an ARM (Anti-Radiation Missile) attack.

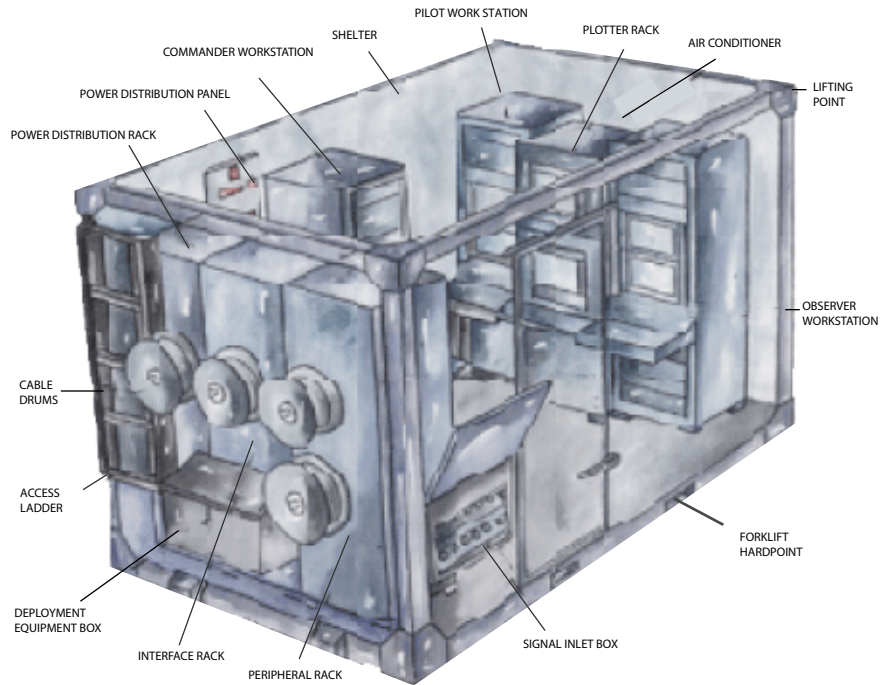
External pilot functions are supported through the Pilot console I/O from a simple fly lead connection allowing tele-command trim settings to remain undisturbed for both UAV and payload control.

The software displays show aircraft track over GIS/GPS data interfaces as well as instrumentation Heads Up Display screens in a common interface to all consoles. Mission Analysis and logging software remains back-end active on all PC's and the central server. Mission video and data can also be recorded on LP mode in digital HDD or magnetic tape format allowing for instant replays on mission termination. A portable printer/scanner allows easy upload of area maps to the workstations from the server.

Internal and external communications between operators and field crew are managed through an intercom system.



	DESCRIPTION	QTY
1	GCS RACK	
2	PILOT CONSOLE	
3	COMMANDER CONSOLE	
4	OBSERVER CONSOLE	
5	CONSOLES HOLDING FITTINGS	
6	CONSOLES HOLDING FITTINGS	



No	Description	Model	Qty
	<b>GCS CONTAINER</b>		
	<b>WEIGHT: 3700 kg; SIZE: 4.6mL x 2.5mW x 2.5mH</b>		
1	AIR CONDITIONER - SPLIT; 1 TON	H/V - AC / 001	1
2	GCS INTERCOM	H/V - ICOM / 001	1
3	CABLE DRUM # 1 VIDEO CABLE (VIDEO-1) TYPE = RG8 COAXIAL LENGTH = 300FT CONNECTORS = N-TYPE MALE, N-TYPE MALE	H/V - DRM / 001	1
4	CABLE DRUM # 2 TELECOMMAND CABLE TYPE = 4 WIRE BRAIDED SHIELD LENGTH = 300FT CONNECTORS = FEMALE CANNON 8 PIN	H/V - DRM / 002	1
5	CABLE DRUM # 3 DATA CABLE (DATA-1) TYPE = 12 WIRE BRAIDED SHIELD LENGTH = 300FT CONNECTORS = 8 PIN FEMALE CANNON	H/V - DRM / 003	1
6	FIRE EXTINGUISHER	H/V - FEXT / 001	1
7	EXHAUST FANS (220V)	H/V - EFAN / 001-003	3
8	TOOL BOX		1
9	GCS POWER CABLE (150 FT) ATS POWER CABLE (150 FT) SIGNAL DISTRIBUTION BOX		1

No	Description	Model	Qty
	<b><u>PILOT CONSOLE</u></b>		
10	IBM PC	H/V - PC / 001	1
	PRE-INSTALLED SET OF SOFTWARE		1
11	PILOT TELECOMMAND SYSTEM	H/V - PTLCS / 001	1
	10 CHANNEL RADIO		1
	7 CHANNEL - CHANNEL EXTENDER		1
	WS PARAMETER BOARD		1
12	FLAT SCREEN 21" COLOR TV		1
13	LINE INTERACTIVE 500VA UPS		1
14	SURGE PROTECTOR	H/V - UPS / 003	1
15	HEAD PHONE (INTERCOM)	H/V - SCH / 001	1
16	CHAIR	H/V - ICOM / 002	1
		H/V - CH / 001	1
	<b><u>COMMANDER CONSOLE</u></b>		
17	IBM PC	H/V - PC / 002	1
	PRE-INSTALLED SET OF SOFTWARE		1
18	COMMANDER TELECOMMAND SYSTEM	H/V - CTCS / 002	1
19	FLAT SCREEN 21" COLOR TV		1
20	LINE INTERACTIVE 500VA UPS	H/V - UPS / 002	1
21	SURGE PROTECTOR	H/V - SCH / 002	1
22	HEAD PHONE (INTERCOM)	H/V - ICOM / 003	1
23	CHAIR	H/V - CH / 002	1
	<b><u>OBSERVER CONSOLE</u></b>		
24	IBM PC	H/V - PC / 003	1
	PRE-INSTALLED SET OF SOFTWARE		1
25	OBSERVER TELECOMMAND SYSTEM	H/V - OTCS / 003	1
26	FLAT SCREEN 21" COLOR TV		1
27	LINE INTERACTIVE 500VA UPS	H/V - UPS / 001	1
28	SURGE PROTECTOR	H/V - SCH / 003	1
29	HEAD PHONE (INTERCOM)	H/V - ICOM / 004	1
30	CHAIR	H/V - CH / 003	1
	<b><u>RACK # 1</u></b>		
31	220V CIRCUIT BREAKER PANEL	H/V - DP-220 / 001	1
32	220V DISTRIBUTION BOX	H/V - DB-220 / 001	1
33	13.8V 40A DC POWER SUPPLY	H/V - SP13.8D / 001	1
34	220/220V POWER DISTRIBUTION PANEL	H/V - AC220/220 / 001	1
35	220/110V POWER DISTRIBUTION PANEL	H/V - AC220/110 / 001	1
36	220/13.8V POWER DISTRIBUTION PANEL	H/V - 220/13.8DP / 001	1
	<b><u>RACK # 2</u></b>		
37	IBM PC	H/V - PC / 004	1
38	4 HEAD MULTI SYSTEM VCR	H/V - VCR / 001	1
39	HP SCANNER, COPIER, PRINTER	H/V - HPS / 001	1
	<b><u>RACK # 3</u></b>		
40	GCS INTERCOM SYSTEM	H/V - GCOM / 001	1
41	LINE INTERACTIVE 500VA UPS	H/V - UPS / 004	1
42	8 PORT LANTECH MINI SWITCH	H/V - SWT / 001	1
43	4 PORT VIDEO EXTENDER	H/V - VEXT / 002	1
44	AUDIO SPLITTER	H/V - ASPL / 001	1
45	FILE CABINET		1
	TV REMOTE CONTROL		3
	VCR REMOTE CONTROL		1
	HEADPHONE SET FOR EXT PILOT ( 100F )	H/V - ICOM / 006	1