

FIREHORN PROJECT

Ground Segment subsystem Documentation

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1 Introduction

TODO

2 Nomenclatures and definitions

To facilitate clearer and more efficient communication, we have established a few nomenclatures within the team, the subsystem and this document.

2.1 Team nomenclatures

Table 1: Acronyms and definitions within the team

Acronym	Complete	Meaning
LV	Launch Vehicle	The rocket - Firehorn in this document if not otherwise specified
AV	Avionics	Rocket subsystem - On-board computer
GS	Ground Segment	Rocket subsystem - Infrastructure that is not directly in the LV
FD	Flight Dynamics	Rocket subsystem - Simulations, calculations and optimizations
PR	Propulsion	Rocket subsystem - In charge of the engine
RE	Recovery	Rocket subsystem - Recovering the rocket safely
ST	Structure	Rocket subsystem - Rocket's body
PL	Payload	Rocket subsystem - On-board experiment

2.2 GS subsystem nomenclatures

Table 2: Acronyms and definitions within GS

Acronym	Complete	Meaning
GSE	Ground Segment Equipment	Infrastructure managing propellant and rocket filling
GST	Ground Station	All GS equipment that is not on pad
RT	Rocket Tracker	Device used to track LV
RTA	Rocket Tracker Antenna	RT equipped with an antenna for communication purposes
RTC	Rocket Tracker Camera	RT equipped with a camera
GSC	Ground Segment Control	Infrastructure used to interface the team with the rocket
LPC	Launch Pad Camera	On pad camera module

2.3 This document nomenclatures

Table 3: Acronyms and definitions within this document

Acronym	Complete	Meaning
Cmd	Command	Specific action assigned to a program to perform a specific task
GUI	Graphical user interface	Digital interface interfacing the team with data and control equipment

3 Requirements

TODO

4 Ground segment subsystem overview

TODO

4.1 Control

TODO

4.2 Radioboard

TODO

4.3 Motherboard

TODO

4.4 Rocket Tracker Antenna

TODO

4.5 Rocket Tracker Camera

TODO

4.6 Launch Pad Camera

TODO

5 Interfaces

5.1 Interfaces overview

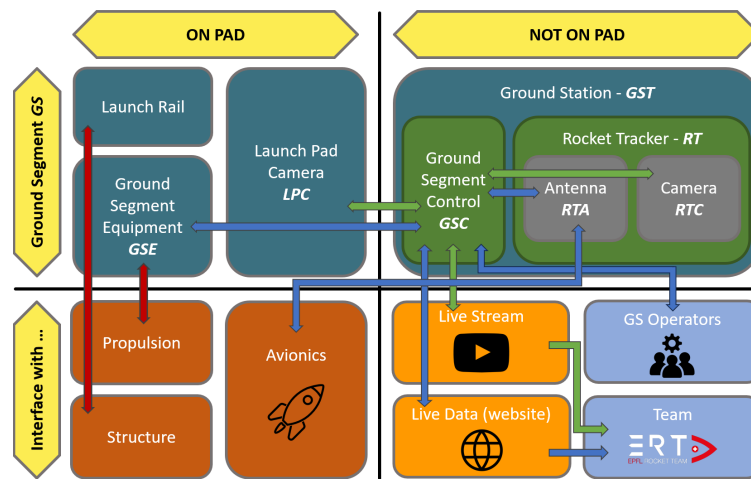


Figure 1: Ground Segment Interfaces, Mechanical, Data and cmd and Video and cmd

5.2 Interfacing with Avionics

TODO

5.3 Interfacing with Propulsion

TODO

5.4 Interfacing with Structure

TODO

5.5 Internal interfaces

TODO