

Surface Detector Electronics Upgrade

UUB V3 Documentation Status

Malargue, April 14th 2024



UUB/SPMT Documentation

The documentation for the SDEU, UUB and Small PMT is located in 2 sites (software excluded):

→ CERN EDMS → <https://edms.cern.ch/project/CERN-0000174820>

→ Pierre Auger Observatory → <https://www.auger.org.ar/SDEU/>

UUB/SPMT Data Package document

[EDMS 3055569](#)

Section 01: List of components, schematics and drawings

Section 01.1: UUB

AugerPrime UUB technical description	EDMS 2281108	1
AugerPrime UUB Mass production documents	EDMS 2159857 (ZIP)	9
AugerPrime UUB V3 Schematics	EDMS 2273336	2
AugerPrime UUB V3 Loose Parts	PAO-000270	n/a
UUB V3 Enclosure drawing	EDMS 2675498	1
UUB V3 Front panel drawing	EDMS 2693329	1

Section 01.2: Small PMT

Datasheet R8619_TPMH1331E02	EDMS 2491603	1
Hamamatsu PAO_SPMT	Hamamatsu ETD160721 EDMS 2491604	n/a 1
SPMT_Base_Neohm Production Plan	471_100_414_STP EDMS 2491607	Rev A1 1
PMT_Hamamatsu_R8619	EDMS 2491845 (ZIP)	1
PMT_Base_471_100_414_RevA	EDMS 2491846 (ZIP)	1
PMT_Mechanics	EDMS 2491848 (ZIP)	1
PMT_HVPS_CAEN_A7501PB	EDMS 2491847 (ZIP)	1

UUB/SPMT Data Package document

[EDMS 3055569](#)

Section 02: List of Spare components

Section 02.1: UUB

AugerPrime_UUB_Spare_Components	EDMS 3072439	1
---------------------------------	------------------------------	---

Section 02.2: Small PMT

SPMT Spare Parts List	EDMS 3071612	20/03/24
-----------------------	------------------------------	----------

Section 03: Test & Assembly Procedures

All On site procedures (UUB, SPMT)	https://www.auger.org.ar/SDEU/procedures/index.html	n/a
------------------------------------	---	-----

Section 03.1: UUB

AugerPrime UUB On Site testing procedure	EDMS 2509437	1
--	------------------------------	---

Section 03.2: Small PMT

SPMT_ZENER_Specifications for assembly	EDMS 2491841	1
SPMT_Base_NEOHM_Functional Test	EDMS 2491614	1
SPMT_Base_NEOHM_Setup Test	EDMS 2491614	1
Procedure for the electrical test of the SPMT bases	EDMS 2491614	1
Test bench and validation for the CAEN A7501PB HV-boxes	EDMS 2491843	1

UUB/SPMT Data Package document

[EDMS 3055569](#)

Section 04: UUB Software and Firmware		
UUB S/W & F/W GIT repository	https://gitlab.iap.kit.edu/auger-observatory/sde/uub	protected
Section 05: Failure Rates and Failure Modes Analysis		
<i>Section 05.1: UUB</i>		
Failure report (partial) July 2022	https://auger.org.ar/SDEU/uub_status/Failure_report1.pdf	1.1
List of UUB problems at tests and field	https://www.auger.org.ar/SDEU/uub_status/uub_failures.html	23/02/2023
<i>Section 05.2: Small PMT</i>		
SPMT problems at test and field	EDMS 3071614	03/04/24
Section 06: Documents provided during the Review		
SDEU ORR Indico page	https://indico.nucleares.unam.mx/event/2179/	