

1. PROJECT CODE SA-AMS		2. JPIC CODE AMS		AMS-02 TASK SHEET (ATS)			
T Y P E	A	CONFIGURATION CHANGE		<input checked="" type="checkbox"/>	4. ATS NO. ACC-090930-0		5. PAGE 1 OF 10
		<input checked="" type="checkbox"/>	PERMANENT	<input type="checkbox"/>	6. MOD SHEET(S) NUMBER(S)		
	B	NONCONFIGURATION CHANGE		<input type="checkbox"/>			
10. PART NAME ACC			11. Sub Detector Name Anticoincidence Counter ACC			12. SERIAL/LOT NO.	
14. APPLICABLE DOCUMENTS							
18. ATS TITLE AMS-02 ACC Cabling of PMT-Boxes to S-Crates, Flight-integration							
20. OPER SEQ. NO.		21. OPERATIONS (Print, Type, or Write Legibly)				VERIFICATION	
						22. TECH	23. QA/DV
		AMS-02 ACC HV and Signal Cabling of PMT-Box sector 24, side Z+, Pre-integration					
1.		Open this ATS The responsible engineer for the AMS-02 ACC flight cabling decides about changes in the series of the installation sequences.					
2.		Location and routing of ACC signal (4) and HV (4) cables of <ul style="list-style-type: none"> – PMT-Box Sector 08 Z+ side to S0 crate and SHV0, – PMT-Box Sector 24 Z+ side to S1 crate and SHV1, – PMT-Box Sector 08 Z- side to S2 crate and SHV2, – PMT-Box Sector 24 Z- side to S3 crate and SHV3, respectively. (see Figures 1, 2, 3 and 4)					
24. ORIGINATOR Th. Kirn			DATE		25. FINAL ACCEPTANCE STAMP AND DATE		
<i>APPROVALS (Printed or Typed and Signed)</i>							
26. PROJECT ENGINEER M. Wlochal			DATE		27. QUALITY ENGINEER		DATE
28.					29.		
30.					31.		

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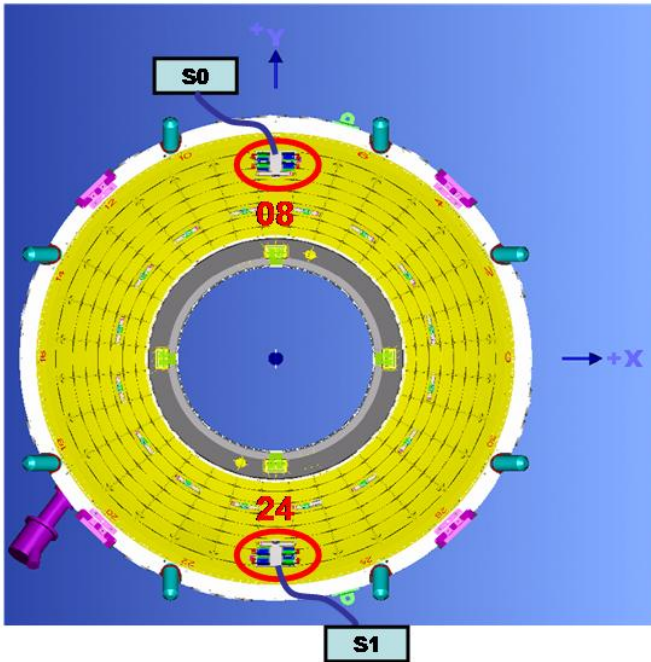


Figure 1: Location of ACC PMT-Box Sector 08 Z+ and Sector 24 Z+ side. The blue line corresponds to the 4 ACC signal and 4 ACC HV cables each.

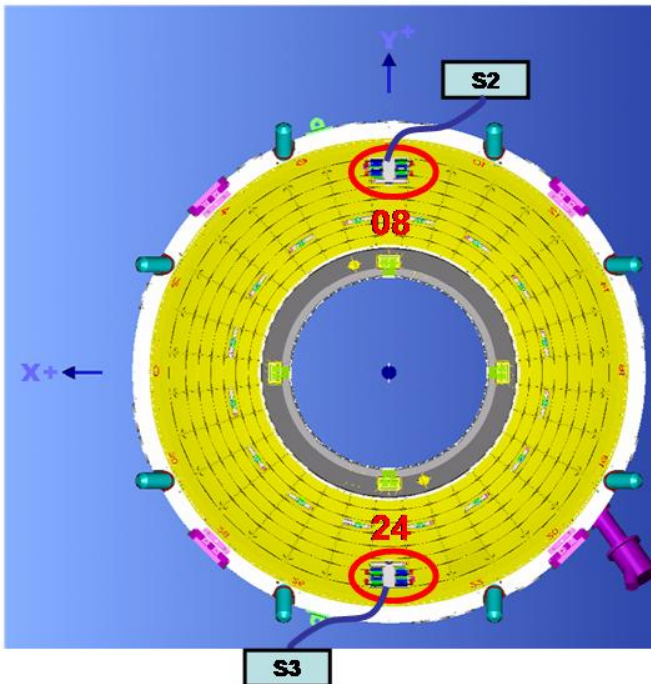


Figure 2: Location of ACC PMT-Box Sector 08 Z- and Sector 24 Z- side. The blue line corresponds to the 4 ACC signal and 4 ACC HV cables each.

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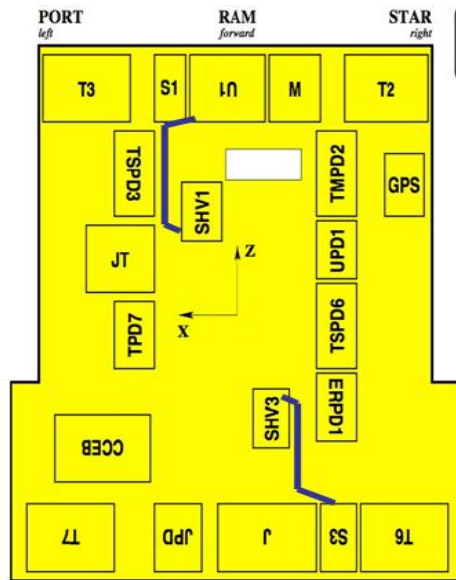


Figure 3: Routing of ACC HV cables on RAM radiator. The blue line corresponds to the 4 ACC HV cables, each.

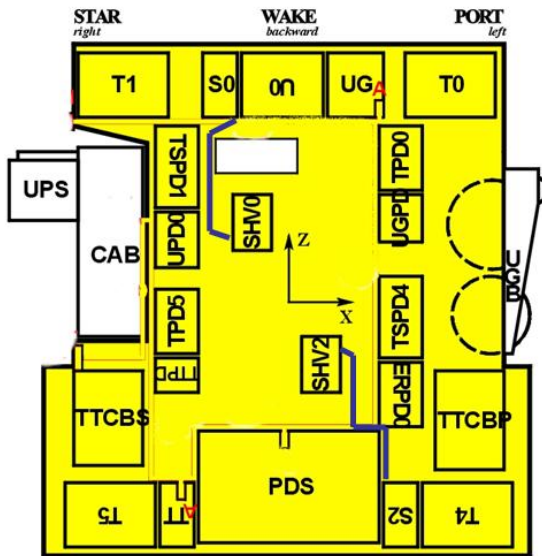


Figure 4: Routing of ACC HV cables on WAKE radiator. The blue line corresponds to the 4 ACC HV cables, each.

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3. Connections on S0, S1, S2 and S3 crates. ACC signal cables are connected to SFEA2 CH1, CH2, CH3 and CH4.

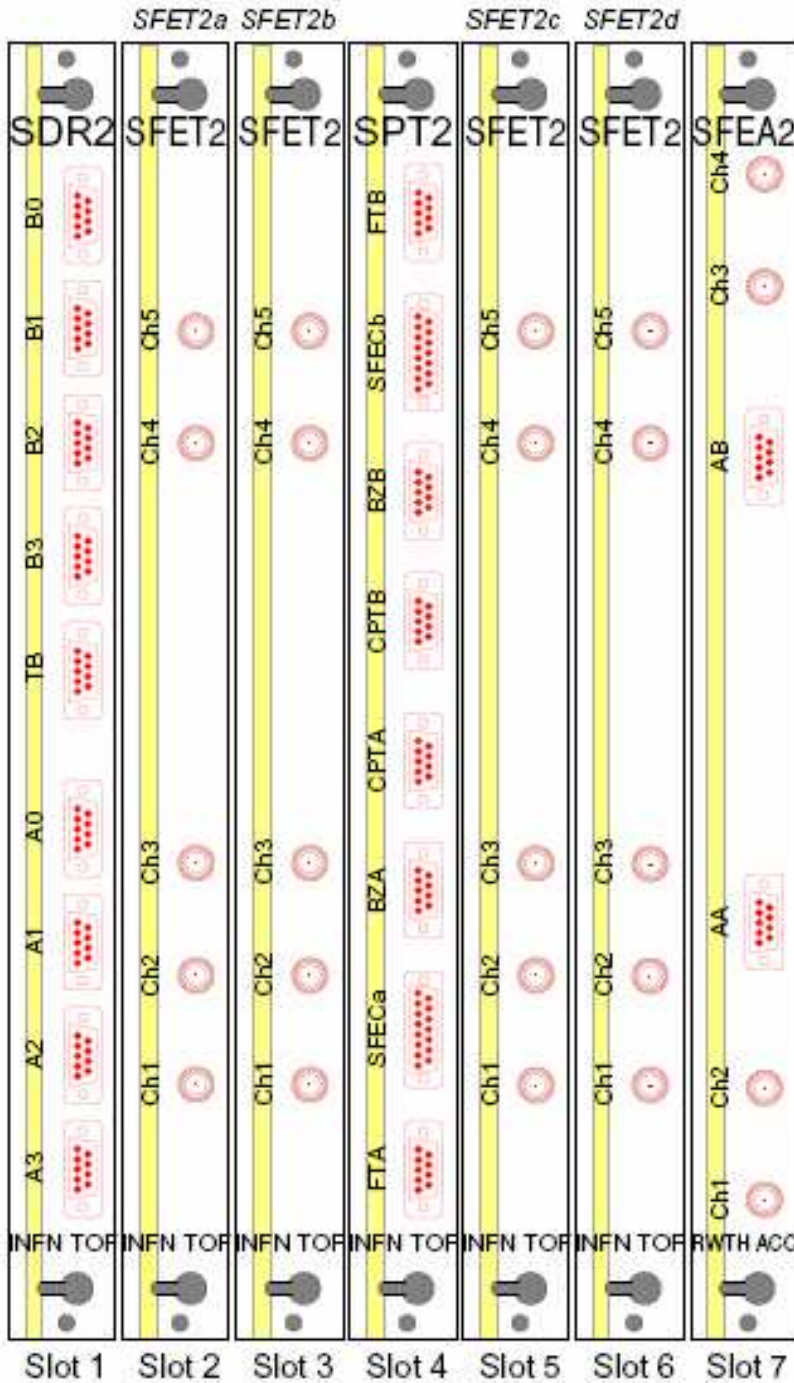


Figure 5: Front panel of S0, S1, S2 and S3 crates.

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4. Connections on SHV0, SHV1, SHV2 and SHV3 HV Power Supply. ACC HV cables are connected to connectors no. 20, 21, 22 and 23

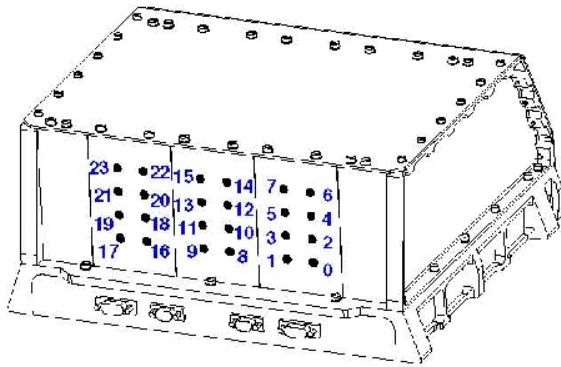


Figure 6: SHV0, SHV1, SHV2 and SHV3 HV power Supply for ToF and ACC

5. Balcony for cabling of S0, S1, S2 and S3 crates

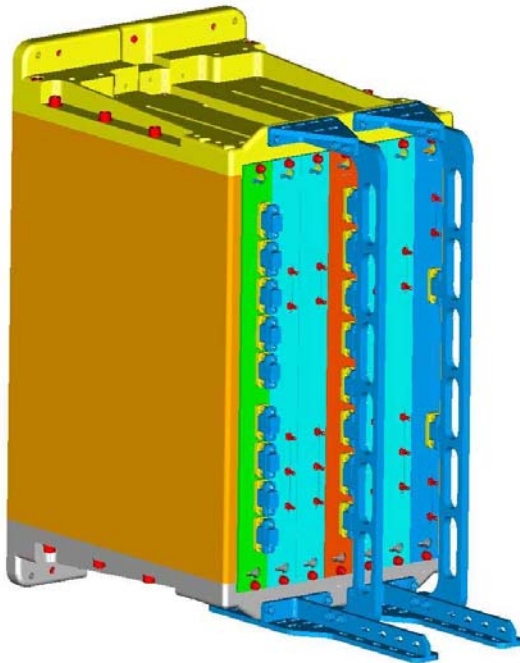


Figure 7: Mechanics of S0, S1, S2 and S3 crates including cable balconies

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6. Routing and cabling of ACC HV and signal cables of PMT box sector 08 Z+ side to S0-crate.

6.1 Remove cable ties for temporary fixation of ACC HV and signal cables at PMT box sector 08 Z+ side.

6.2 Route 4 ACC signal and 4 ACC HV cables to the lower edge of S0 cable balcony closest to SFEA (slot7). Form a bundle and stabilize it with surrounding flight cable ties every ten centimeters. Open the bundle at lower edge of S0 crate. Route the 4 signal cables to their positions on SFEA2 board (see section 9.).

6.3 Plug in by hand – without further tools – ACC signal cables as in following table:

PMT Prod. No.	Sector 08 Z+ PMT Signal-cable Label no.	S0 SFEA2 (slot 7) connector no.
8	ACC SL 8	CH1
12	ACC SL 12	CH2
10	ACC SL 10	CH3
1	ACC SL 1	CH4

6.4 Route 4 ACC HV cables according figure 4 to SHV0 brick. Form a bundle and stabilize it with surrounding flight cable ties every ten centimeters. Connect ACC HV cables as in following table and fix them by hand (no tool needed):

PMT Prod. Nr.	Sector 08 Z+ PMT HV-cable Label no.	SHV0 connector no.
8	ACC HV 8	20
12	ACC HV 12	21
10	ACC HV 10	22
1	ACC HV 1	23

6.5 Secure connections between ACC signal cable and connector and HV cable and connector with glue.
SCOTCH-WELD 2216 B/A, Lot Number:
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- 6.5.1 Clean ACC signal cable plug and connector and HV cable plug and connector to glue with isopropanol.
- 6.5.2 Glue ACC signal cable plug and connector and HV cable plug and connector with SCOTCH-WELD 2216 B/A.
7. Routing and cabling of ACC HV and signal cables of PMT box sector 24 Z+ side to S1-crate.
- 7.1 Remove cable ties for temporary fixation of ACC HV and signal cables at PMT box sector 24 Z+ side.
- 7.2 Route 4 ACC signal and 4 ACC HV cables to the lower edge of S1 cable balcony closest to SFEA (slot7). Form a bundle and stabilize it with surrounding flight cable ties every ten centimeters. Open the bundle at lower edge of S1 crate. Route the 4 signal cables to their positions on SFEA2 board (see section 9.).
- 7.3 Plug in by hand – without further tools – ACC signal cables as in following table:

PMT Prod. No.	Sector 24 Z+ PMT Signal-cable Label no.	S1 SFEA2 (slot 7) connector no.
18	ACC SL 18	CH1
13	ACC SL 13	CH2
15	ACC SL 15	CH3
19	ACC SL 19	CH4

- 7.4 Route 4 ACC HV cables according figure 3 to SHV1 brick. Form a bundle and stabilize it with surrounding flight cable ties every ten centimeters. Connect ACC HV cables as in following table and fix them by hand (no tool needed):

PMT Prod. Nr.	Sector 24 Z+ PMT HV-cable Label no.	SHV1 connector no.
18	ACC HV 18	20
13	ACC HV 13	21
15	ACC HV 15	22
19	ACC HV 19	23

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- 7.5 Secure connections between ACC signal cable and connector and HV cable and connector with glue.
SCOTCH-WELD 2216 B/A, Lot Number:
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- 7.5.1 Clean ACC signal cable plug and connector and HV cable plug and connector to glue with isopropanol.
- 7.5.2 Glue ACC signal cable plug and connector and HV cable plug and connector with SCOTCH-WELD 2216 B/A.
8. Routing and cabling of ACC HV and signal cables of PMT box sector 08 Z- side to S2-crate.
- 8.1 Remove cable ties for temporary fixation of ACC HV and signal cables at PMT box sector 08 Z- side.
- 8.2 Route 4 ACC signal and 4 ACC HV cables to the lower edge of S2 cable balcony closest to SFEA (slot7). Form a bundle and stabilize it with surrounding flight cable ties every ten centimeters. Open the bundle at lower edge of S2 crate. Route the 4 signal cables to their positions on SFEA2 board (see section 9.).
- 8.3 Plug in by hand – without further tools – ACC signal cables as in following table:

PMT Prod. No.	Sector 08 Z- PMT Signal-cable Label no.	S2 SFEA2 (slot 7) connector no.
6	ACC SL 6	CH1
4	ACC SL 4	CH2
9	ACC SL 9	CH3
17	ACC SL 17	CH4

- 8.4 Route 4 ACC HV cables according figure 4 to SHV2 brick. Form a bundle and stabilize it with surrounding flight cable ties every ten centimeters. Connect ACC HV cables as in following table and fix them by hand (no tool needed):

PMT Prod. Nr.	Sector 08 Z- PMT HV-cable Label no.	SHV2 connector no
6	ACC HV 6	20
4	ACC HV 4	21

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9	ACC HV 9	22
17	ACC HV 17	23

8.5 Secure connections between ACC signal cable and connector and HV cable and connector with glue.

SCOTCH-WELD 2216 B/A, Lot Number:

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8.5.1 Clean ACC signal cable plug and connector and HV cable plug and connector to glue with isopropanol.

8.5.2 Glue ACC signal cable plug and connector and HV cable plug and connector with SCOTCH-WELD 2216 B/A.

9. Routing and cabling of ACC HV and signal cables of PMT box sector 24 Z- side to S3-crate.

9.1 Remove cable ties for temporary fixation of ACC HV and signal cables at PMT box sector 24 Z- side.

9.2 Route 4 ACC signal and 4 ACC HV cables to the lower edge of S3 cable balcony closest to SFEA (slot7). Form a bundle and stabilize it with surrounding flight cable ties every ten centimeters. Open the bundle at lower edge of S3 crate. Route the 4 signal cables to their positions on SFEA2 board (see section 9.).

9.3 Plug in by hand – without further tools – ACC signal cables as in following table:

PMT Prod. No.	Sector 24 Z- PMT Signal-cable Label no.	S3 SFEA2 (slot 7) connector no.
2	ACC SL 2	CH1
21	ACC SL 21	CH2
14	ACC SL 14	CH3
7	ACC SL 7	CH4

9.4 Route 4 ACC HV cables according figure 3 to SHV3 brick. Form a bundle and stabilize it with surrounding flight cable ties every ten centimeters. Connect ACC HV cables as in following table and fix them by hand (no tool needed):

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PMT Prod. Nr.	Sector 24 Z- PMT HV-cable Label no.	SHV3 connector no.
2	ACC HV 2	20
21	ACC HV 21	21
14	ACC HV 14	22
7	ACC HV 7	23

- 9.5 Secure connections between ACC signal cable and connector and HV cable and connector with glue.
SCOTCH-WELD 2216 B/A, Lot Number:
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- 9.5.1 Clean ACC signal cable plug and connector and HV cable plug and connector to glue with isopropanol.
- 9.5.2 Glue ACC signal cable plug and connector and HV cable plug and connector with SCOTCH-WELD 2216 B/A.
10. Close this ATS.