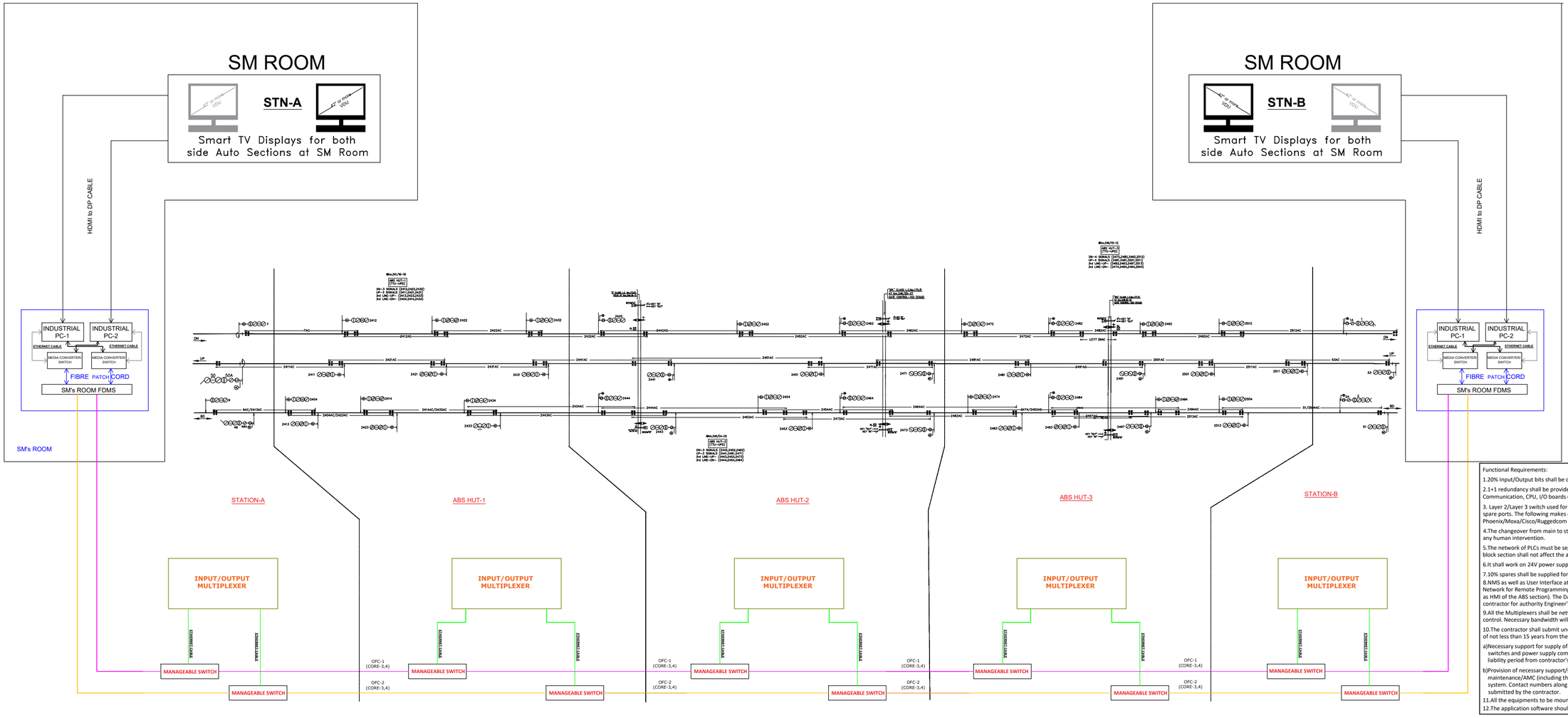
TYPICAL SCHEMATIC FOR STATION DISPLAY OF ABS SECTION USING INPUT/OUTPUT MULTIPLEXER



Functional Requirements:

1.20% Input/Output bits shall be catered as spares.

2.1+1 redundancy shall be provided for all modules such as Power supply, Communication, CPU, I/O boards etc.

3. Layer 2/Layer 3 switch used for networking shall be of industrial grade with at least 20% spare ports. The following makes of switches is recommended: M/s Phoenix/Moxa/Cisco/Ruggedcom or better.

4.The changeover from main to standby system and vice versa shall be seamless without any human intervention.

5.The network of PLCs must be segregated block section wise such that failure in one block section shall not affect the adjacent block sections.

6.It shall work on 24V power supply.

7.10% spares shall be supplied for Vital modules such as Power supply Communication, CPU etc.

8.NMS as well as User Interface at test room shall be provided for I/o Multiplexer / PLC Network for Remote Programming, Monitoring & Diagnostics (Network Elements as well as HMI of the ABS section). The DASH BOARD layout & features shall be submitted by the contractor for authority Engineer's approval.

9.All the Multiplexers shall be networked and display will be provided in the central control. Necessary bandwidth will be provided by Railway.

10.The contractor shall submit undertaking from OEM for the following items for a period of not less than 15 years from the date of commissioning.

a)Necessary support for supply of hardware such as various vital/Non vital modules, switches and power supply components on payment basis after the completion of liability period from contractor's side.

b)Provision of necessary support/service in the future for scaling, alteration as well as maintenance/AMC (including the software used for display) of the commissioned system. Contact numbers along with escalation matrix of I/O Mux supplier shall be submitted by the contractor.

11.All the equipments to be mounted in a 42U rack.

12.The application software should be swappable/ work on either sides of PCs at a station.

STATION-A I/Os OF INPUT/OUTPUT MULTIPLEXER FOR DISPLAY

INPUTS	
7_RECR	9_HHECR
7_HECR	9_DECR
7_HHECR	9_AMECR
7_DECR	9A_ACPR
7_AMECR	9B_ACPR
7A_ACPR	9A_PPR
7B_ACPR	9B_PPR
7A_PPR	49_RECR
7B_PPR	49_HECR
50_RECR	49_HHECR
50_HECR	49_DECR
50_HHECR	49_AMECR
50_DECR	9_HYK
50_AMECR	9_HHYK
7_HYK	9_DYK
7_HHYK	2413_HYK
7_DYK	2413_HHYK
2411_HYK	2413_DYK
2411_HHYK	2423_DYK
2411_DYK	A_OFC_M_FAIL
2421_DYK	A_OFC_R_FAIL
9_RECR	
9_HECR	

ABS HUT-1 I/Os OF INPUT/OUTPUT MULTIPLEXER FOR DISPLAY

INPUTS				OUTPUTS		
2412_RECR	2431_DECR	2411A_ACPR	2432B_PPR	7_RECR	2441_AMECR	2444_AMECR
2412_HECR	2414_RECR	2411B_ACPR	2411A_PPR	7_HECR	2441A_ACPR	2443_RECR
2412_HHECR	2414_HECR	2421A_ACPR	2411B_PPR	7_HHECR	2441B_ACPR	2443_HECR
2412_DECR	2414_HHECR	2421B_ACPR	2421A_PPR	7_DECR	2441A_PPR	2443_HHECR
2411_RECR	2414_DECR	2431A_ACPR	2421B_PPR	7_AMECR	2441B_PPR	2443_DECR
2411_HECR	2423_RECR	2431B_ACPR	2431A_PPR	7A_ACPR	9_RECR	2443_AMECR
2411_HHECR	2423_HECR	2404A_ACPR	2431B_PPR	7B_ACPR	9_HECR	2443A_ACPR
2411_DECR	2423_HHECR	2404B_ACPR	2404A_PPR	7A_PPR	9_HHECR	2443B_ACPR
2422_RECR	2423_DECR	2414A_ACPR	2404B_PPR	7B_PPR	9_DECR	2443A_PPR
2422_HECR	2434_RECR	2414B_ACPR	2414A_PPR	50_RECR	9_AMECR	2443B_PPR
2422_HHECR	2434_HECR	2434A_ACPR	2414B_PPR	50_HECR	9A_ACPR	
2422_DECR	2434_HHECR	2434B_ACPR	2434A_PPR	50_HHECR	9B_ACPR	
2421_RECR	2434_DECR	2413A_ACPR	2434B_PPR	50_DECR	9A_PPR	
2421_HECR	2433_RECR	2413B_ACPR	2413A_PPR	50_AMECR	9B_PPR	
2421_HHECR	2433_HECR	2423A_ACPR	2413B_PPR	2442_RECR	49_RECR	
2421_DECR	2433_HHECR	2423B_ACPR	2423A_PPR	2442_HECR	49_HECR	
2432_RECR	2433_DECR	2433A_ACPR	2423B_PPR	2442_HHECR	49_HHECR	
2432_HECR	2412A_ACPR	2433B_ACPR	2433A_PPR	2442_DECR	49_DECR	
2432_HHECR	2412B_ACPR	2412A_PPR	2433B_PPR	2442_AMECR	49_AMECR	
2432_DECR	2422A_ACPR	2412B_PPR	230V Fail	2441_RECR	2444_RECR	
2431_RECR	2422B_ACPR	2422A_PPR	1_OFC_M_FAIL	2441_HECR	2444_HECR	
2431_HECR	2432A_ACPR	2422B_PPR	1_OFC_R_FAIL	2441_HHECR	2444_HHECR	
2431_HHECR	2432B_ACPR	2432A_PPR		2441_DECR	2444_DECR	

ABS HUT-2 I/Os OF INPUT/OUTPUT MULTIPLEXER FOR DISPLAY

INPUTS						OUTPUTS		
2442_RECR	2471_RECR	2464_RECR	2444B_ACPR	2444A_PPR	LC 175 LXYR	2432_RECR	2481_DECR	2483A_PPR
2442_HECR	2471_HECR	2464_HECR	2443A_ACPR	2444B_PPR	LC 175 230V FAIL	2432_HECR	2481A_ACPR	2483B_PPR
2442_HHECR	2471_HHECR	2464_HHECR	2443B_ACPR	2443A_PPR	2_OFC_M_FAIL	2432_HHECR	2481B_ACPR	
2442_DECR	2471_DECR	2464_DECR	2454A_ACPR	2443B_PPR	2_OFC_R_FAIL	2432_DECR	2481A_PPR	
2442_AMECR	2471_AMECR	2464_AMECR	2454B_ACPR	2454A_PPR		2432A_ACPR	2481B_PPR	
2441_RECR	2444_RECR	2473_RECR	2453A_ACPR	2454B_PPR		2432B_ACPR	2434_RECR	
2441_HECR	2444_HECR	2473_HECR	2453B_ACPR	2453A_PPR		2432A_PPR	2434_HECR	
2441_HHECR	2444_HHECR	2473_HHECR	2464A_ACPR	2453B_PPR		2432B_PPR	2434_HHECR	
2441_DECR	2444_DECR	2473_DECR	2464B_ACPR	2464A_PPR		2431_RECR	2434_DECR	
2441_AMECR	2444_AMECR	2473_AMECR	2473A_ACPR	2464B_PPR		2431_HECR	2434A_ACPR	
2452_RECR	2443_RECR	2442A_ACPR	2473B_ACPR	2473A_PPR		2431_HHECR	2434B_ACPR	
2452_HECR	2443_HECR	2442B_ACPR	2442A_PPR	2473B_PPR		2431_DECR	2434A_PPR	
2452_HHECR	2443_HHECR	2441A_ACPR	2442B_PPR	230V Fail		2472_RECR	2434B_PPR	
2452_DECR	2443_DECR	2441B_ACPR	2441A_PPR	LC 173 Open		2472_HECR	2433_RECR	
2451_RECR	2443_AMECR	2452A_ACPR	2441B_PPR	LC 173 Close		2472_HHECR	2433_HECR	
2451_HECR	2454_RECR	2452B_ACPR	2452A_PPR	LC 173 LXFR		2472_DECR	2433_HHECR	
2451_HHECR	2454_HECR	2451A_ACPR	2452B_PPR	LC 173 LXCR		2474_RECR	2433_DECR	
2451_DECR	2454_HHECR	2451B_ACPR	2451A_PPR	LC 173 LXYR		2474_HECR	2483_RECR	
2462_RECR	2454_DECR	2462A_ACPR	2451B_PPR	LC 173 230V FAIL		2474_HHECR	2483_HECR	
2462_HECR	2453_RECR	2462B_ACPR	2462A_PPR	LC 175 Open		2474_DECR	2483_HHECR	
2462_HHECR	2453_HECR	2471A_ACPR	2462B_PPR	LC 175 Close		2481_RECR	2483_DECR	
2462_DECR	2453_HHECR	2471B_ACPR	2471A_PPR	LC 175 LXFR		2481_HECR	2483A_ACPR	
2462_AMECR	2453_DECR	2444A_ACPR	2471B_PPR	LC 175 LXCR		2481_HHECR	2483B_ACPR	

ABS HUT-3 I/Os OF INPUT/OUTPUT MULTIPLEXER FOR DISPLAY

INPUTS						OUTPUTS		
2472_RECR	2501_HECR	2494_DECR	2481B_ACPR	2472A_PPR	51/2504B_PPR	2462_RECR	2473B_PPR	51A_PPR
2472_HECR	2501_HHECR	2497_RECR	2491A_ACPR	2472B_PPR	2497A_PPR	2462_HECR	1_RECR	51B_PPR
2472_HHECR	2501_DECR	2497_HECR	2491B_ACPR	2482A_PPR	2497B_PPR	2462_HHECR	1_HECR	
2472_DECR	2474_RECR	2497_HHECR	2501A_ACPR	2482B_PPR	2513A_PPR	2462_DECR	1_HHECR	
2481_RECR	2474_HECR	2497_DECR	2501B_ACPR	2492A_PPR	2513B_PPR	2462A_ACPR	1_DECR	
2481_HECR	2474_HHECR	2497_AMECR	2511A_ACPR	2492B_PPR	LC177 DN A_PPR	2462B_ACPR	53_RECR	
2481_HHECR	2474_DECR	2504_RECR	2511B_ACPR	2512A_PPR	LC177 DN B_PPR	2462A_PPR	53_HECR	
2481_DECR	2483_RECR	2504_HECR	2474/2493A_ACPR	2512B_PPR	LC177 BD A_PPR	2462B_PPR	53_HHECR	
2482_RECR	2483_HECR	2504_HHECR	2474/2493B_ACPR	2481A_PPR	LC177 BD B_PPR	2464_RECR	53_DECR	
2482_HECR	2483_HHECR	2504_DECR	2484A_ACPR	2481B_PPR	230V Fail	2464_HECR	53A_ACPR	
2482_HHECR	2483_DECR	2513_RECR	2484B_ACPR	2491A_PPR	LC 177 Open	2464_HHECR	53B_ACPR	
2482_DECR	2484_RECR	2513_HECR	2494A_ACPR	2491B_PPR	LC 177 Close	2464_DECR	53A_PPR	
2482_AMECR	2484_HECR	2513_HHECR	2494B_ACPR	2501A_PPR	LC 177 LXFR	2471_RECR	53B_PPR	
2491_RECR	2484_HHECR	2513_DECR	51/2504A_ACPR	2501B_PPR	LC 177 LXCR	2471_HECR	2_RECR	
2491_HECR	2484_DECR	2472A_ACPR	51/2504B_ACPR	2511A_PPR	LC 177 LXYR	2471_HHECR	2_HECR	
2491_HHECR	2484_AMECR	2472B_ACPR	2497A_ACPR	2511B_PPR	LC 177 230V FAIL	2471_DECR	2_HHECR	
2491_DECR	2493_RECR	2482A_ACPR	2497B_ACPR	2474/2493A_PPR	3_OFC_M_FAIL	2473_RECR	2_DECR	
2491_AMECR	2493_HECR	2482B_ACPR	2513A_ACPR	2474/2493B_PPR	3_OFC_R_FAIL	2473_HECR	51_RECR	
2492_RECR	2493_HHECR	2492A_ACPR	2513B_ACPR	2484A_PPR		2473_HHECR	51_HECR	
2492_HECR	2493_DECR	2492B_ACPR	LC177 DN A_ACPR	2484B_PPR		2473_DECR	51_HHECR	
2492_HHECR	2494_RECR	2512A_ACPR	LC177 DN B_ACPR	2494A_PPR		2473A_ACPR	51_DECR	
2492_DECR	2494_HECR	2512B_ACPR	LC177 BD A_ACPR	2494B_PPR		2473B_ACPR	51A_ACPR	
2501_RECR	2494_HHECR	2481A_ACPR	LC177 BD B_ACPR	51/2504A_PPR		2473A_PPR	51B_ACPR	

STATION-A I/Os OF INPUT/OUTPUT MULTIPLEXER FOR DISPLAY

INPUTS	
1_RECR	S1_AMECR
1_HECR	S1A_ACPR
1_HHECR	S1B_ACPR
1_DECR	S1A_PPR
1_AMECR	S1B_PPR
S3_RECR	2512_HYK
S3_HECR	2512_HHYK
S3_HHECR	2512_DYK
S3_DECR	2492_DYK
S3_AMECR	2504_HYK
S3A_ACPR	2504_HHYK
S3B_ACPR	2504_DYK
S3A_PPR	2494_DYK
S3B_PPR	S3_HYK
2_RECR	S3_HHYK
2_HECR	S3_DYK
2_HHECR	S1_HYK
2_DECR	S1_HHYK
2_AMECR	S1_DYK
S1_RECR	B_OFC_M_FAIL
S1_HECR	B_OFC_R_FAIL
S1_HHECR	
S1_DECR	

SSE/SIG/P/SC	ASTE/P/SC	DSTE/P/SC	Dy.CSTE/P/SC	SIGNAL & TELECOMMUNICATION, SOUTH CENTRAL RAILWAY
Digitally signed by RAHUL PRAMOD VARAKALA Reason: SSE/S/P/SC Date: 2025.04.20 12:05:07+05'30'	SATYANNARAYANA SALAPU Digitally signed by SATYANNARAYANA SALAPU	V S S GANESH KUMAR KARRI	Digitally signed by KUMARAN G Reason: Dy.CSTE/P/SC Date: 2025.04.22 12:13:11+05'30'	TYPICAL SCHEME FOR STATION DISPLAY OF ABS SECTION USING INPUT/OUTPUT MULTIPLEXER DRG No.C/P/MISC/5/2025

Signature Not Verified
Digitally signed by KUMARAN G
Date: 2025.04.30 19:40:41 IST
Reason: IRBPS-CRIS
Location: New Delhi