

# DATA LOGGER INTERFACE EQUIPMENT FOR SSDAC

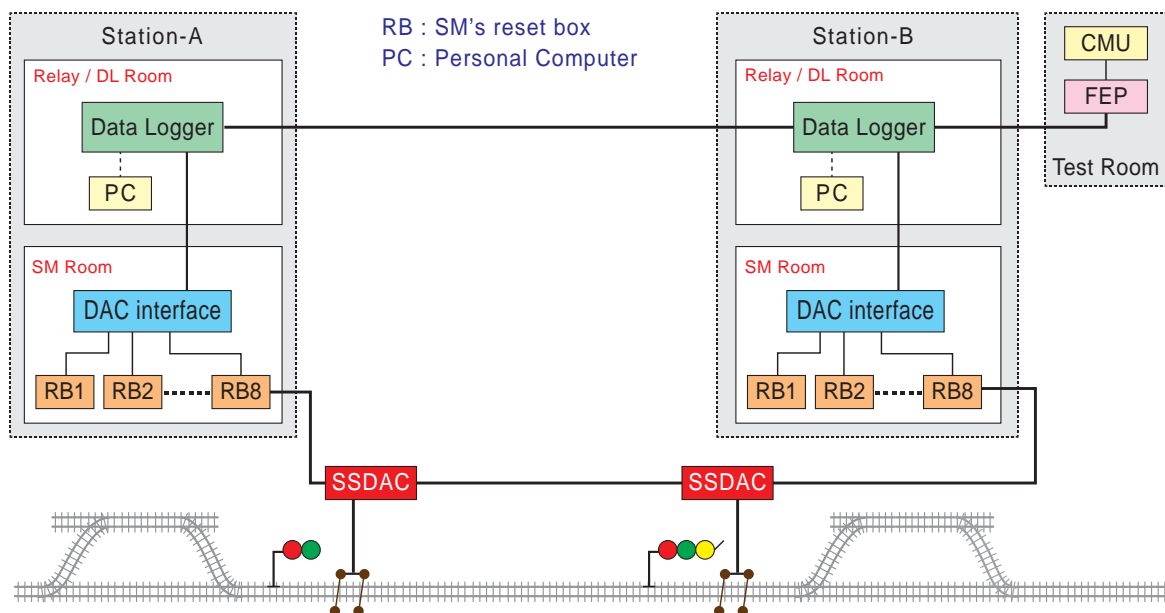
## OBJECTIVE

To provide SSDAC diagnostic data at central place [test room] through existing data logger network for better analysis and quick advise to maintenance staff. Diagnostic data sharing with OEM for online trouble shooting.

## NEED

SSDAC Diagnostics are displayed in the form of Error Codes at Station Master's Reset Box. At present the following difficulties are felt in trouble shooting of SSDAC.

- ❖ All diagnostics captured are not displayed as Error Codes
- ❖ Error Code by itself cannot be readily used unless the trouble shooting manual is referred to by technician
- ❖ The technician at site cannot be guided by better qualified person remotely as the diagnostic information is avail able at the station only
- ❖ Station master has to monitor reset boxes continuously for any errors as no audible alarm is provided in reset boxes



The diagnostic packets are taken from the serial port of SM reset box of SSDAC by data logger interface equipment. It is connected to station data logger by current loop communication. The diagnostic packets are carried to CMU in the Test Room through the existing Data Logger network. Software in CMU displays the data and generates alarms. These alarms can be sent to ESM and to the concerned maintenance staff on real time basis. The software loaded in the Local PC at the station also generates the same alarms.

## SOFTWARE SPECIFICATIONS

1. Station wise SSDAC units health for entire division on single screen
2. Simulation (Station mimic display) shows all SSDAC's parameters as shown in fig: Station Display
3. Generates alarms for the following abnormalities
  - A) Communication media failure
  - B) Intermittent Power Supply failure
  - C) **Abnormal train movements**: Out count before IN, Train Trolley mismatch etc.
  - D) **Internal Errors**: Card fails, Link Failure, Supervisory Error
  - E) **Improper Operations of SM** - Reset not initiated, Reset applied on one end only
4. All alarms can be sent as SMS to maintenance staff to reduce MTTR
5. Generates Axle Count, System Info. & Failure log off reports for Analysis purpose to take actions to increase MTBF

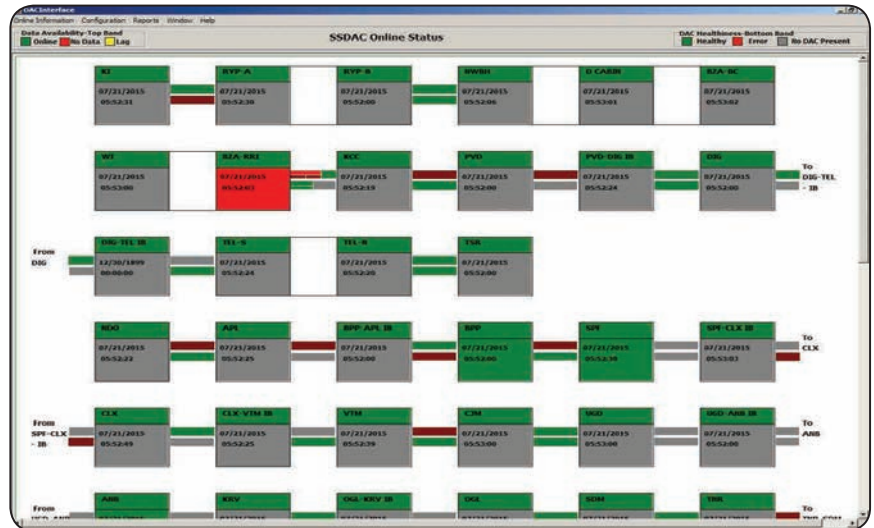
## HARDWARE SPECIFICATIONS

- 1) **Power Supply**: Nominal 24V DC (18V to 32V)
- 2) **Working temperature**: -100 C to +700 C
- 3) **Capacity to monitor**: 8 reset boxes
- 4) **Data Speed between Data Logger Interface & Data Logger**: 57.6 kbps
- 5) **Clock synchronization**: with Data Logger
- 6) Audio visible alert to SM
- 7) **Display of error codes**: Error codes of all 8 SSDACs are displayed by 7 segment LED
- 8) **ID Setting**: Configurable unique 8-bit ID for each interface equipment
- 9) **Watch dog reset**: Watch dog facility enables automatic restart

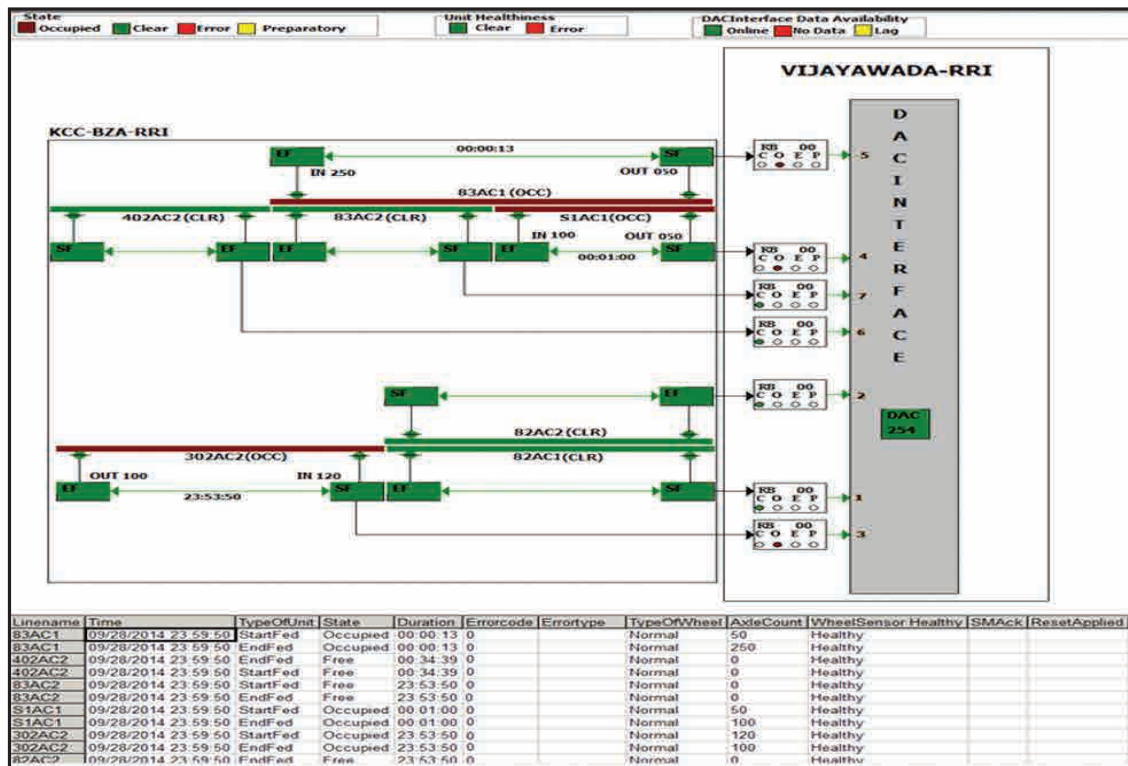
## KEY FEATURES

- ❖ Audio-visual alerts to SM when DAC changes to error state.
- ❖ Simulation & Reports at Central place for analysis
- ❖ SMS alert to the maintenance staff from test room with GSM modem.
- ❖ Enables effective monitoring of the performance of SSDACs on entire division from Head Quarters

## SSDAC ONLINE STATUS



## STATION DISPLAY



## FAILURE LOG OFF REPORT

Sl. No.	Date & Time	Section Name	Unit Name	Error Code	Error Description	Expected Root Cause	Expected Trouble Shooting Procedure
1	2-Jun-15 19:35:29	SPF-CLX IB(UP)	Entry	33	displayed if the number of axles going out of the section is more than coming into the section	This error will be displayed when the axles going out of the section is more than coming in to section	Station master has to apply reset after section is verified as per SWR. Movement of pilot train in the section makes system clear.
2	3-Jun-15 1:25:38	SPF-CLX IB(UP)	Entry	44	displayed when both the channels are giving independent pulses in forward direction	This error will be displayed when a motor trolley wheel that are in similar diameter is moved beyond permissible limit	Station master has to check whether position of Axle detectors is OK and correct, check for failure due to motor trolley etc and apply reset in the system
3	3-Jun-15 5:26:24	SPF-CLX IB(UP)	Entry	38	Improper shunting on axle detectors	This error will be displayed when shunting done on axle counter without proper direction such a way that both detectors are influenced twice	Station master has to apply reset after section is verified as per SWR. Movement of pilot train in the section makes system clear.

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