

GOVERNMENT OF INDIA (भारत सरकार)
MINISTRY OF RAILWAYS (रेल मंत्रालय)
RAILWAY BOARD (रेलवे बोर्ड)

No. 2010/Sig/SGF/EI(MEDHA)

New Delhi, Dated 06.06.2019

PCSTEs
All Zonal Railways,
Metro Kolkata and CORE Allahabad.

Sub: - Medha make EI model MEI 633: (i) Upgradation to executive software to version 1.2 (ii) Restoration of Hot Standby mode.

Ref:- RDSOs letters No. STS/L/SSI/Medha/Vol 65/612 & 613 dt. 9.5.19

RDSO vide their letter STS/L/SSI/MEDHA/Vol 62/475 dated 11.09.2018 issued instructions to run M/s Medha EI in Cold Standby mode till the firm takes corrective action.

Further, Vide letters reference above, RDSO has circulated detailed procedure for Upgradation of Executive Software from version 1.1 to 1.2 in Medha make EI model MEI 633. RDSO has further issued guidelines for restoration of Hot Standby mode to all existing Medha EIs. (Copy enclosed)

Firm shall carry out the upgradation in the presence of Zonal Railways Officials. Zonal Railways are requested kindly send the progress of executive software upgradation and restoration to Hot Standby mode in their monthly PCDO. A proforma for PCDO is attached.

This has the approval of Board [M(S&T)].

Encl: as above


06/06/19
(Arjun Singh Tomar)
निदेशक (सिगनल)

Copy to:
ED (Coord)/Sig/RDSO - for kind information and necessary action please.

PCDO Annexure

Medha make MEI 633 EI : (i) Upgradation to executive software version 1.2 (ii) Restoration to Hot Standby mode.

Name of the Zone:

As on

S No	Stations with Medha EI		Upgradation to executive software to version 1.2 (Date)	Restoration to Hot- Standby (Date)
	Name	Date of Installation		

Abbas
56/06/19.

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No. STS/L/SSI/Medha/Vol 65/612

Dated: 09.05.2019

M/s Medha Servo Drives (P) Ltd.,
 P-4/5B, I.D.A. Nacharam,
 Hyderabad-500 076

Sub: Relisting of M/s Medha Servo Drives (P) Ltd., Hyderabad for the Item
 Electronic Interlocking Model MEI 633 as per Spec. RDSO/192.

Ref: (i) M/s Medha's Letter no. MEI633:RDSO:3152:19 dated 25.04.2019
 ii) This office letter no. STS/L/SSI/Medha/Vol.-62/474 dated 11.09.2018

Vide this office letter under ref (ii), M/s Medha make MEI-633 Electronic Interlocking was delisted from the list of "Approved vendor for developmental orders" of RDSO till the time the corrective action in the design of system followed by validation is done. As per your request under ref (i), subsequent to the lab testing, ISA validation, testing under simulation at Manak Nagar Station/NR and detailed field testing on S.E.Railway, the competent authority has approved relisting of M/s Medha make MEI-633 Electronic Interlocking in the list of "Approved vendor for developmental orders" of RDSO.

The Executive Software of MEI633 has been upgraded to Version 1.2 to resolve the issue. The checksum of new Executive Software is as below:

SW Module Name	SW Ver.	SW Checksum
Supervisory Processor (SVP)	1.2	0xAC707E66
Vital Processor (VP)	1.2	0xB1BC480C
Communication Processor (COMP)	1.2	0x8EA8EEBE
Panel Processor (PP)	1.2	0xEA17D574
Input Output Communication Processor (IOCOM)	1.1	0x035928B2
Wayside Function Module (Input) (IPWFM)	1.1	0xE6BCEA45
Wayside Function Module (Output) (OPWFM)	1.1	0x8C2C579F
Counter Box (CB)	1.1	0xE19031E6

In the modified Executive Software, the following additional features are also provided in MEI-633 Electronic Interlocking:

1. VDU and MT time will be automatically synchronized with EI.
2. Filtering of events to be sent to Datalogger is possible by defining in application logic.

M. M. Waris
 09.05.19

(M M. Waris)

Jt. Director/Signal-III
 for Director General/Signal

Copy for information and necessary action to: Addresses overleaf

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No. STS/L/SSI/Medha/Vol.-65/613

Dated: 09.05.2019

The Principal CSEs
All Indian Railways,
Metro and CORE

Sub : Instructions regarding Upgradation of Executive software Ver. 1.2 of M/s Medha make MEI633 EI at existing stations.

Ref : This office letter no. STS/L/SSI/Medha/Vol.-62/475 dated 11.09.2018

Vide this office letter under reference, RDSO has issued instructions to run M/s Medha make MEI633 Electronic Interlocking in cold-standby mode till the time firm takes corrective action. Now corrective action has been taken by the firm and now the existing Medha make MEI633 EI shall be upgraded to Executive Software Ver 1.2 and shall be restored in hot standby mode. The upgradation requires change in only Executive software of EI (Ver1.2) and software of VDU (Ver1.5) & MT (Ver1.3). No change in the Hardware and Application Logic of the existing station is required for this upgradation. Similarly, the new commissioning shall now be done on hot standby mode with upgraded Executive Software version 1.2.

The upgradation per station will require around 1-3 hours time and around 15-60 minutes disconnection depending on site conditions. The firm shall carryout the upgradation in presence of Zonal Railway officials. The detail procedure for implementation the above changes in the stations is enclosed herewith as annexure-A.

Encl: Annexure-A in 9 pages

M.M. Waris
09.05.19

M.M. Waris
Joint Director/ Signal-III
For Director General /Signal

Copy for information and necessary action to: Addresses overleaf



Annexure- A

Procedure for MEI633

Executive Software Upgradation Ver 1.1 to Ver 1.2

Doc ID: MEI633-SW-UPD

Version 1.0



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1 Scope

This document covers the steps required to upgrade the executive SW of MEI633 to Version 1.2, so as to update the existing EI system running in cold-standby mode to run in hot-standby mode as per RDSO guideline.

Requirement:

1. There shall be no change in hardware of existing station
2. There shall be no change in Application logic of existing station EI
3. Only Executive Software of EI and Software of VDU and MT shall be upgraded.

2 Procedure

The following are the major steps involved in the up-gradation of the Executive SW in the commissioned stations

1. Executive SW Programming by updating on EI and VDU/MT
2. Testing
3. Performance Monitoring

Note:

Application data of the station remains unchanged. The checksum before upgradation shall be noted and it shall be ensured that after upgradation, same checksum of application data is on the system.

2.1 Executive SW Programming

The following MEI633 sub-systems are to be updated.

Sl No.	SW Module Name	PCB name	Subsystem	SW Version no.	SW Checksum
1	Supervisory Processor (SVP)	CVC	CIU	1.2	0xAC707E66
2	Vital Processor (VP)	CVC	CIU	1.2	0xB1BC480C
3	Communication Processor (COMP)	CCC	CIU	1.2	0x8EA8EEBE
4	Panel Processor (PP)	PPCC	PP	1.2	0xEA17D574
5	Maintenance Terminal (MT)	-	-	1.3	-
6	VDU	-	-	1.5	-



The following sub-systems remain unchanged

SI No.	SW Module Name	PCB name	Subsystem	SW Version no.	SW Checksum
1	Input Output Communication Processor (IOCOM)	OICC	OC	1.1	0x035928B2
2	Wayside Function Module (Input) (IPWFM)	OCCI	OC	1.1	0xE6BCEA45
3	Wayside Function Module (Output) (OPWFM)	OCCO	OC	1.1	0x8C2C579F
4	Counter Box (CB)	CBCC	CB	1.1	0xE19031E6

2.1.1 Requirements (will be ensured by OEM i.e. M/s Medha)

1. PC/Laptop
2. Programming tools
3. Executive SW Ver 1.2
4. VDU and MT applications (Revised Versions of software)

2.1.2 Guidelines for programming and procedure for upgrade at Station:

Following steps shall be followed:

- a) Ensure programming setup arrangements are done.
- b) Ensure system functionality before removal of cards from system.
- c) Remove standby cards (CVC, CCC and PPCC where CCIP is provided) from the system and place into programming Jig. The EI shall continue to run in cold-standby mode on the other system. No block is required.
- d) Program the new Executive Software in standby cards just taken, as per the programming procedure. Now one system with upgraded Executive software is ready.
- e) Check with railways for availability of necessary block period. Typically block is required for 15-60 minutes.
- f) Now the upgraded system can be resumed in cold standby, say System B (if required to shorten the block period). The cards for other System, say System A, shall be taken and same procedure as in 'c' to 'e' shall be repeated.
- g) **For VDU Update:**
 - For Dual VDU: One VDU can be made spare and updated version can be uploaded in advance.
 - For CCIP with VDU: The operation may be transferred to CCIP and VDU shall be made spare for update like above
 - VDU update shall take typically 10-30 minutes and is an offline activity that will not require block
- h) **For MT Update:**
 - The activity can be taken as offline for MT update. No block is required. This can also be done in advance, but on same day.
- i) Ensure MT and VDU updated setup are installed and made ready for testing.

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- j) Ensure block is obtained
- k) Shutdown EI System and insert upgraded programmed cards into respective slots of system.
- l) At the same time, the updated VDU and MT shall also be connected to new Executive EI system.
- m) Once system is stable, ensure checksum of Appl. Logic is not changed. Perform few operations from operation panels to ensure functionality.

Note:

For programming the spare cards of station, following shall be ensured:

- Ensure working condition of spare cards (CVC, CCC & PPCC) for the station.
- Ensure that card jumper settings are as per station specific, if not do settings accordingly as per the station configuration.
- Program the station spare cards as per the programming procedure.

2.1.3 Verification:

2.1.3.1 Ensure Check-Sum values by comparing the Online Check-Sum report from MT, with the following values.

Executive Software Check Sum Value and Version no details

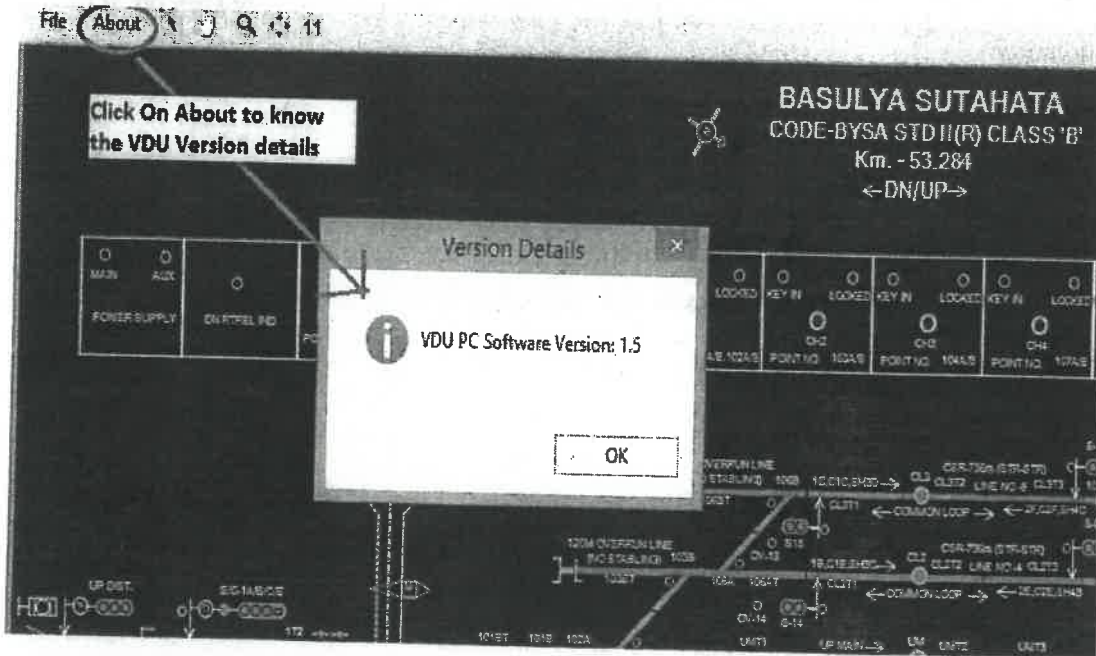
Sl No.	SW Module Name	SW Version	Executive SW Checksum
1	Supervisory Processor (SVP)	1.2	0xAC707E66
2	Vital Processor (VP)	1.2	0xB1BC480C
3	Communication Processor (COMP)	1.2	0x8EA8EEBE
4	Panel Processor (PP)	1.2	0xEA17D574
5	Input Output Communication Processor (IOCOM)	1.1	0x035928B2
6	Wayside Function Module (Input) (OCCI)	1.1	0xE6BCEA45
7	Wayside Function Module (Output) (OCCO)	1.1	0x8C2C579F
8	Counter Box (CB)	1.1	0xE19031E6

Online checksum report on MT can be obtained as shown below.

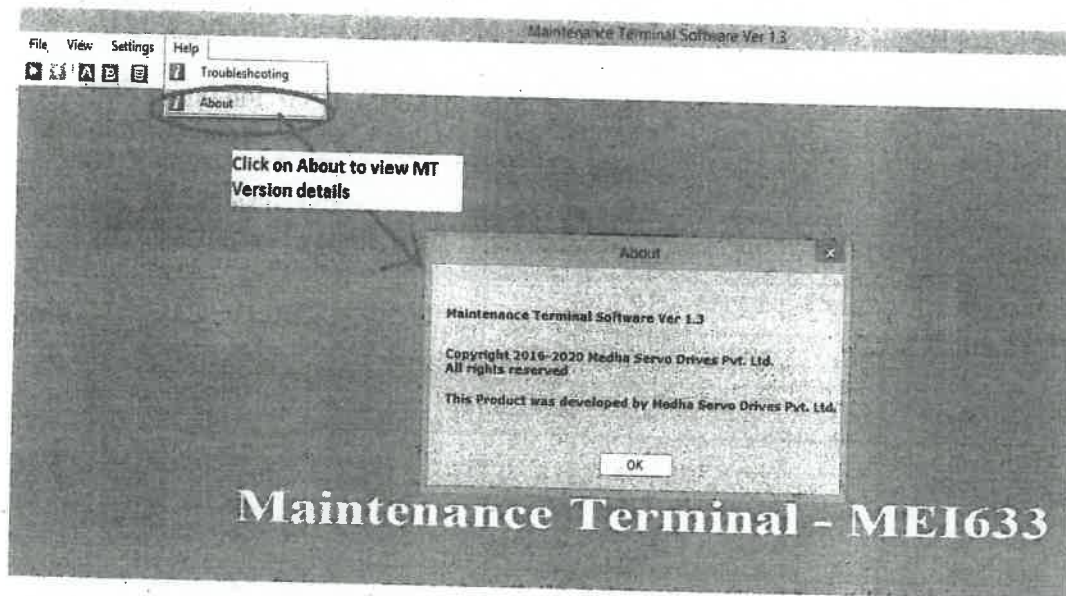
Click on View menu → Click Online → Click Checksum.



2.1.3.2 The VDU version shall be checked as shown below. It shall have version 1.5
Click on "About" to display version details.



2.1.3.3 The MT version shall be checked as shown below. It shall have version 1.3
Click on Help → Click on "About".



The version information will be updated in the PCBs as mentioned below

S No	PCB Name	Version Information
1	CVC	D01S002H01
2	CCC	D01S002H01
3	PCC	D01S002H01

2.2 Testing

The following tests are to be performed to ensure the correct up-gradation of Executive SW and hot-standby functionality.

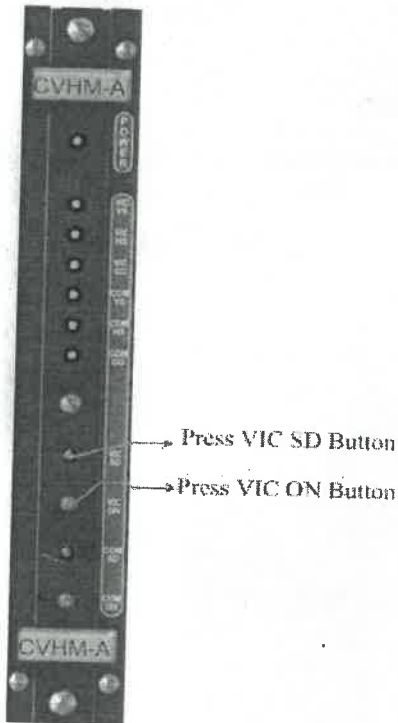
- Basic Functional testing
- Changeover Testing

2.2.1 Basic Functional Testing

- 1 Clear few signals and verify the correct functioning
- 2 Operate few points, crank handles, LC gates and verify the correct functioning

2.2.2 Changeover Testing

Procedure for system change-over.



- Ensure there are no train movement in the yard.
- No signal operation is being done by the SM.
- Ensure none of the trains were approaching to station.
- Press the VIC SD button on the fascia of the CVHM card of Active Channel as indicated in the figure
- After above operation, Active system will Shut down and Stand-by System will become Active.

Note 1:

To restore power of CVC card, VIC ON button should be pressed. After power on, wait until "Standby LED is ON" on CVC card or Standby message is displayed on MT screen"

Note 2:

Until Standby Indication is available on CVC card, no other change-over is permitted. If Active channel is shutdown during this period, the complete system will shut-down immediately on safe side.

Changeover test cases:

S. No.	Description of Test	Expected Result	Verified & found OK/NOT OK
1	Switch On both channels of CIU. Ensure all the routes are clear and then Clear a signal.	Ch-A should be Active and Ch-B should be Standby Signal should be cleared	
2	Switch off the Ch-A as per procedure in 2.2.2	Ch-B should be Active Signal should not be disturbed	
3	Cancel the set signal	Signal should go to danger	
4	Clear a signal (Any signal)	Signal should be cleared	
5	Switch On the Ch-A and wait for one minute till standby indication comes on Ch-A	Ch-B should be Active and Ch-A should be Standby Signal should not be disturbed	
6	Switch off the Ch-B	Ch-A should now become Active Signal should not be disturbed	
7	Switch On the Ch-B and wait for one minute	Ch-A should be Active and Ch-B should be Standby Signal should not be disturbed	

2.3 Performance Monitoring

Medha Staff shall be available for at-least a day and monitor the performance of the system