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Module

Chapter C: Appendix 1

Endorsement and Authorisation

For endorsement, authorisation and issue record of this document, please refer to the SSI Applications Manual Contents, NR/L2/SIG/17002

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User information

This Network Rail standard contains colour-coding according to the following Red–Amber–Green classification.

Red requirements – No variations, could stop the railway

- **Red requirements shall** always be complied with and achieved.
- Red requirements shall be presented in a red box **with the word “shall” or expressed as a direct instruction**.
- Accountability for the efficacy of red requirements lies with the Professional Head/Standard Owner.
- Red requirements are monitored for compliance.
- Corrective actions shall be enforced if deviations are discovered through functional checks (e.g. engineering verification visits, audit or Operations Self-Assurance).

Amber requirements – Controlled variations, approved risk analysis and mitigation

- **Amber requirements shall** be complied with unless variation has been approved in advance.
- Amber requirements shall be presented with an amber sidebar **and with the word “shall” or expressed as a direct instruction**.
- Accountability for the efficacy of these requirements lies with the Professional Head/Standard Owner, or their nominated Delegated Authority.
- Amber requirements are monitored for compliance.
- Variations **may** be permitted. Variations are approved by the Standard Owner or through existing Delegated Authority arrangements.
- Corrective actions shall be enforced if **non-approved** variations are discovered through functional checks (e.g. engineering verification visits, audit or Operations Self-Assurance).

Green – Guidance

- Guidance is based on good practice. Guidance represents supporting information to help achieve **Red** and **Amber** requirements.
- Guidance shall be presented with a dotted green sidebar **and with the word “should” (usually in notes) or as a direct instruction**.
- Guidance is **not mandatory** and is not monitored for compliance.
- Alternative solutions may be used. Alternative solutions do not need to be formally approved.
- Decisions made by a competent person to use alternative solutions should be backed up by appropriate evidence or documentation.

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Issue record

Issue	Date	Comments
7	June 2008	7 th Issue
8	05/09/2015	AMD 04/01 (7) incorporated

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 06/12/2015.

When this standard is implemented, it is permissible for all projects that have formally completed GRIP Stage 3 (Option Selection) to continue to comply with the issue of any relevant Network Rail standards current when GRIP Stage 3 was completed and not to comply with requirements contained herein, unless stipulated otherwise in the scope of this standard.

Reference documentation

[NR/L2/SIG/17503](#) - IECC Internal Subsystems Communications requirements

Disclaimer

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1 Program List

1.1 Introduction

This Appendix has diagrams indicating in which equipment programs (and data) are located, together with lists of program references and issues. These diagrams and lists are split up into the Scheme and DWS categories defined in Chapter B Section 5 for Interlocking Cubicle/Technician Terminal equipment, with separate ones for SMs, PMs and LDTs.

Further details of program and data EPROMs are then given in Appendices 2 and 3 respectively (in Chapter D).

A dollar symbol \$ in the following Program Lists denotes the latest issue of program to be used for a particular mark of equipment, when equipping new installations or upgrading existing installations. Scheme category 1A,1B and 2A programs are no longer used on Network Rail. A mixture of different scheme category programs shall not be used except with category AL3A schemes and WS3A schemes where apart from the MkALIII I/L MPM's and MkWSIII I/L MPM's MnP2 program (MnP2-E) all of the other software is to the category 2B scheme standard.

Also included are compatibility charts for MkII, MkIIA, MkALIII and MkWSIII MPMs, MkII PPMs and their MMs and programs listed both by program (in the program lists) and by MM type and modification state.

References to MkII MPMs in Section 1.2 also apply to MkIIA and MkIIB MPMs, but elsewhere in this Appendix separate references are provided.

Program Issuing Authorities

DeltaRail Group Ltd Signalling Control Systems Dept. Hudson House 2 Hudson Way Pride Park Derby DE24 8HS	Signalling Solutions Ltd Rowley Lane BOREHAMWOOD Hertfordshire WD6 5PZ	Westinghouse Rail Systems Ltd Research and Development P.O. Box 79, Pew Hill, CHIPPENHAM Wiltshire SN15 1JD
Programs:- All 'GS/' prefixes. All 'SSI' prefixes except those under ALSTOM and WRSL.	Programs:- SSI4311-C4. AL4303-G2 or later. AL4373-G2 or later.	Programs:- SSI4311-D1. WS4303-K1 or later. WS4373-K1 or later.

For abbreviations see Chapter B Section 3. For further explanatory text see Chapter B Section 6.

1.2 List of SSI Program References

SSI4301	SSI Mkl & MkII Technician's Terminal
SSI4302	SSI Mkl & MkII Panel Processor Module
SSI4303	SSI Mkl & MkII Interlocking MPM Main Processor
AL4303	SSI MkALIII Interlocking MPM Main Processor
WS4303	SSI MkWSIII Interlocking MPM Main Processor

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SSI4304	Trackside Communications Processors (TCP) for: SSI Mkl Interlocking MPM SSI & DWS MkII MPMs, all applications SSI & DWS MkALIII & MkWSIII I/L MPMs
SSI4305	Internal Communications Processors (ICP) for: SSI Mkl Interlocking MPM SSI & DWS MkII MPMs, all applications SSI & DWS MkALIII & MkWSIII I/L MPMs
SSI4306	SSI Mkl & MkII Diagnostics MPM Main Processor
SSI4307	SSI Mkl & MkII Simulator MPM Main Processor
SSI4308	Technician's Terminal Logger Recorder
SSI4311	Mkl, MkII, MkIII & MkIIIA Signal Module
SSI4312	Mkl, MkII, MkIII & MkIIIA Points Module (see note 1)
SSI4313	Reserved for Axle Counter Module
SSI4330	Mkl Long Distance Terminal
SSI4341	SSI & DWS Mkl Diagnostics MPM TCP
SSI4342	SSI & DWS Mkl Diagnostics MPM ICP
SSI4343	SSI & DWS Mkl Simulator MPM TCP
SSI4344	SSI & DWS Mkl Simulator MPM ICP
SSI4345	DWS Mkl Interlocking MPM TCP
SSI4346	DWS Mkl Interlocking MPM ICP (see note 2)
SSI4351	DWS Mkl & MkII B/S Interface Processor
SSI4352	DWS Mkl & MkII B/S PPM
SSI4353	DWS Mkl & MkII & MkWSIII B/S MPM Main Processor (see note 3)
SSI4361	DWS Mkl D/L Interface Processor
SSI4362	DWS Mkl D/L PPM
SSI4363	DWS Mkl D/L Interlocking MPM Main Processor
SSI4366	DWS Mkl D/L Diagnostics MPM Main Processor
SSI4367	DWS Mkl D/L Simulator MPM Main Processor (see note 4)

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SSI4371	DWS MkII D/L Interface Processor
SSI4372	DWS MkII D/L PPM
SSI4373	DWS MkII D/L Interlocking MPM Main Processor
AL4373	DWS MkALIII D/L Interlocking MPM Main Processor
WS4373	DWS MkWSIII D/L Interlocking MPM Main Processor
SSI4376	DWS MkII D/L Diagnostics MPM Main Processor
SSI4377	DWS MkII D/L Simulator MPM Main Processor (see note 4)
GS/SI8310	UNIX program for operating Cifer based SSI Design Workstation
SSI8311	Technician's Terminal Tape Analysis program as held on Cifer based SSI Design Workstations (GS/SW8312 is more up-to-date and thus its use instead of SSI8311 is recommended).
GS/SW8312	DOS Technician's Terminal Tape Analysis program
SSI8314	SSI graphical Replay program
GS/SI8320	UNIX program for operating Intergraph based SSI Design Workstation
SSI8320	Intergraph DWS equivalent program adapted to run on the DWS-PC

SSI Program Reference Notes:

The program reference SSI43yy is followed by "-xx" where xx is the program issue, consisting of a letter and a numeral. Generally the different letters used in denoting program issues indicate a step change in software or hardware design. Sometimes these, rather than the SSI43yy numbers, also indicate application, e.g. SSI4302-Fx indicates IECC, rather than Panel, application of the PPM, and SSI4303-Dx and SSI4306-Ex indicate Extended (i.e. paged) memory rather than Standard memory. Further details are included in Chapter B Section 5.3 and in the rest of this Appendix.

The programs above in the 8300 series do not follow these rules. Issues of these programs are listed in Appendix B (in Chapter C).

Note 1 The programs for these Modules are identified as SSI43yy-xx.A and SSI43yy-xx.B, for Processors A & B respectively. The two variants of the program only differ in the first byte, this allowing each Processor to identify itself.

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Note 2 These programs have been renumbered, the old numbers are as follows:

SSI4341-xx was SSI4306-xx.TCP

SSI4342-xx was SSI4306-xx.ICP

SSI4343-xx was SSI4307-xx.TCP

SSI4344-xx was SSI4307-xx.ICP

SSI4345-xx was SSI4353-xx.TCP

SSI4346-xx was SSI4353-xx.ICP

No programs have yet been released under these new numbers, and no retrospective numbering has yet taken place at time of issue of this document.

Note 3 B/S = Bootstrap program held in EPROM, used to control downloading of D/L programs.

Note 4 SSI436x and SSI437x program numbering had not yet been introduced at time of issue of this document. The appended program issue will be identical to the program issue it is derived from, e.g. SSI4373-D2 is derived from SSI4303-D2.

SSI Application Reference Notes:

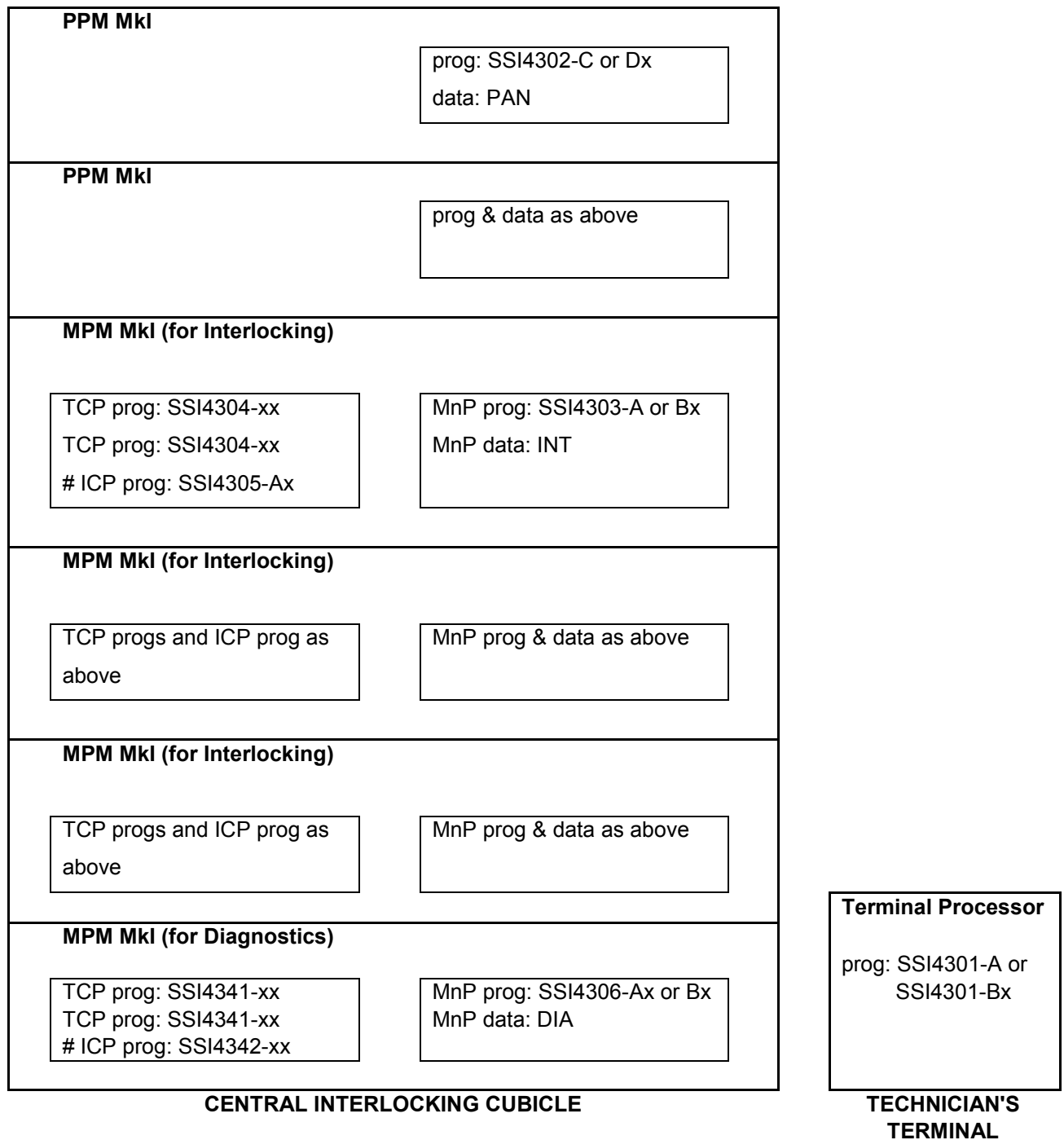
PANEL An application using BR1921 protocol for communication with the PPM.

IECC An application using protocol defined in [NR/L2/SIG/17503](#) for communication with the PPM.

1.3 1A, 1A(Upgrade) & 1B Scheme Category Programs

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1.3.1 Equipment Schematic



Notes:

All programs and data are held in EPROMs.

ICP program not required in I/L & DIA MPMs in 1A category schemes.

Scheme category 1A and 1B programs are no longer in use on Network Rail.

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1.3.2 1A Category Schemes - Program List

EQUIPMENT		APPLN.	PROCR.	PROGRAM REF No. & ISSUE	NOTES
TYPE	Mk				
TT	I			SSI4301-A	
PPM	I	PANEL		SSI4302-C	
MPM	I	I/L	MnP TCP ICP	SSI4303-A SSI4304-A NOT USED	
		DIA	MnP TCP ICP	SSI4306-A2 SSI4341-A2 NOT USED	#N SSI4306-A2.TCP

1.3.3 1A(Upgrade) & 1B Category Schemes - Program List

EQUIPMENT		APPLN.	PROCR.	PROGRAM REF.NO.& ISSUE	NOTES
TYPE	Mk				
TT	I			SSI4301-B4 \$	#E
PPM	I	PANEL		SSI4302-D4 SSI4302-D5 \$	#E
MPM	I	I/L	MnP	SSI4303-B3 SSI4303-B4 \$	
			TCP	SSI4304-A2 \$ SSI4304-B2 \$	1A(upgrade) schemes only 1B schemes only
			ICP	SSI4305-A2 \$	
		DIA	MnP	SSI4306-B5 \$	#E
			TCP	SSI4341-A3 \$	1A(upgrade) schemes only #N SSI4306-A3.TCP
				SSI4341-B5 \$	1B schemes only #E #N SSI4306-B5.TCP
			ICP	SSI4342-B5 \$	#N SSI4306-B5.ICP

Notes:

The two variants of TCP programs address the difference between 1A(upgrade) and 1B category schemes, i.e. whether MkI SMs & PMs or MkII/MkIII/MkIIIA SMs & PMs are used, respectively.

#E Earlier issues of this program may exist in some installations.

#N Previous name of program reference/issue

\$ Latest issue, see Section 1.1.

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1.4 Mkl DWS Simulation Systems (DWS1) Programs

1.4.1 Equipment Schematic

PPM Mkl		B/S prog: SSI4352-Ax D/L prog: SSI4362-xx D/L data: PAN
MPM Mkl (for Interlocking)		
TCP prog: SSI4345-A1 TCP prog: SSI4345-A1 ICP prog: SSI4346-A2		B/S MnP prog: SSI4353-Ax D/L MnP prog: SSI4363-xx D/L MnP data: INT
MPM Mkl (for Diagnostics)		
TCP prog: SSI4341-B6 TCP prog: SSI4341-B6 ICP prog: SSI4342-B5		B/S MnP prog: SSI4353-Ax D/L MnP prog: SSI4366-xx D/L MnP data: DIA
MPM Mkl (for Simulator)		
TCP prog: SSI4343-C1 TCP prog: SSI4343-C1 ICP prog: SSI4344-A2		B/S MnP prog: SSI4353-Ax D/L MnP prog: SSI4367-xx D/L MnP data: SIM
Interface Processor Mkl		B/S prog: SSI4351-Ax D/L prog: SSI4361-xx D/L data: "work.mot"

SIMULATOR RACK

Notes:

D/L downloaded from DWS into RAM.

B/S bootstrap program, held in EPROM, used just for downloading.

All other programs are held in EPROM.

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Mkl DWS Simulation Systems (DWS1) Programs (Contd)

1.4.2 Program Lists

EQUIPMENT		APPL.	PROCR.	PROGRAM REF. NO. & ISSUE	NOTES
TYPE	Mk				
IF	I	-		SSI4351-A6 \$	#B
PPM	I	-		SSI4352-A2 \$	#B
MPM	I	I/L	MnP	SSI4353-A2 \$	#B
			TCP	SSI4345-A1 \$	#N SSI4353-A1.TCP
			ICP	SSI4346-A2 \$	#N SSI4353-A2.ICP
		DIA	MnP	SSI4353-A2 \$	#B
			TCP	SSI4341-B6 \$	#N SSI4306-B6.TCP
			ICP	SSI4342-B5 \$	#N SSI4306-B5.ICP
		SIM	MnP	SSI4353-A2 \$	#B
			TCP	SSI4343-C1 \$	#N SSI4307-C1.TCP
			ICP	SSI4344-A2 \$	#N SSI4307-A2.ICP

Notes:

Downloaded programs (in SSI436x series) are as shown on equipment schematic.

#B Bootstrap program used for downloading data and program into RAM.

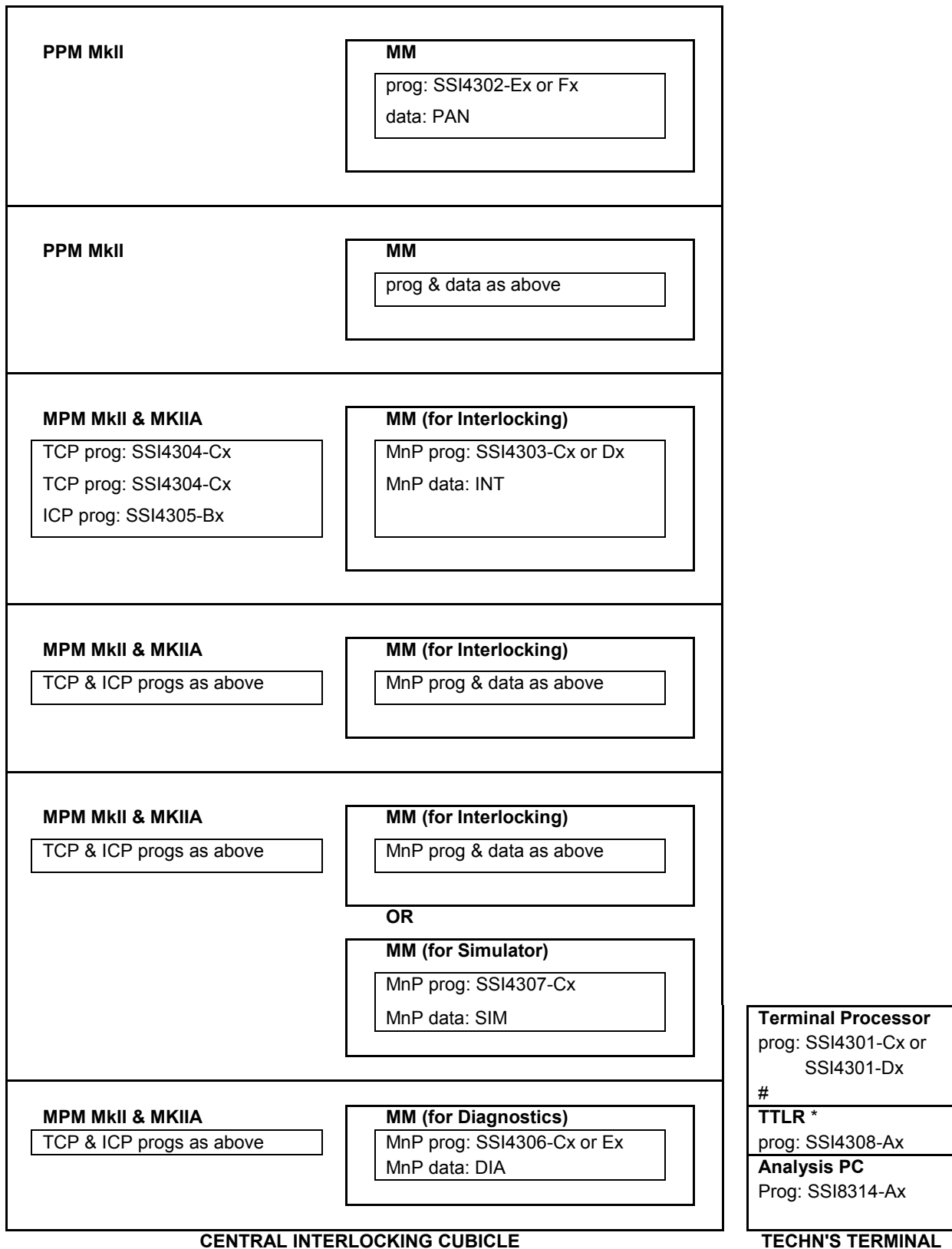
#N Previous name of program reference/issue.

\$ Latest issue, see Section 1.1.

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1.5 2A & 2B Category Scheme Programs

1.5.1 Equipment Schematic



Notes: