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CAMBRIDGE IECC A (1)

IECC SCALABLE EXTERNAL TD COMMUNICATIONS SPECIFICATION

A44CAM-1-SPE-ETDC

VERSION MR8 PR1

Controlled Copy No.

ISSUE and AMENDMENT RECORD

Version	Produced	Checked	Date	Details of change
MR1	-	-	-	(Version not used)
MR2	-	-	-	(Version not used)
MR3	-	-	-	(Version not used)
MR4	[redacted]		20/03/12	New IECC Scalable installed as part of Ely-to-Norwich project.
MR5	-	-	-	(Version not used)
MR6	[redacted]		15/05/12	Modifications per data prep comments and latest info from client: a) Inclusion of FTN headers for all external links. b) Specification of Baud Rate for Inter-Unit Links. c) Signalling Items in SMART and Inter-Unit links: Removal of R8129A(M) and distant signals, inclusion of MWL alarms, use of indication signal IDs. d) Change of initialisation type for link to Cambridge Panel TD.
MR7	[redacted]		12/06/12	Modifications per data prep comment and test log 0026: a) Inclusion of RECALL initialisation configuration info for link to Cambridge Panel TD. b) Removal of Harling Road MCB-OD latches on links to SMART and Inter-Unit Links.
MR8	[redacted]		13/10/12	Document re-numbered from A44CAM-1-SPE-ECS. Updates to modifications: a) Mod 001: Removal of R5028 from SMART and Inter-Unit links. b) Mod 009: Alteration of Identity S8134IND to S8134 in SMART and Inter-Unit links.
PR1	[redacted]		23/10/12	Alterations in line with Stage 2 of the ETN project: a) Addition of new berths in section 2. b) Addition of link to Colchester PSB. c) Alteration of Identity S8134 back to S8134IND in SMART and Inter-Unit links. d) Addition/deletion of identities in SMART and Inter-Unit links.

DELTARAIL GROUP LTD	Name	Signature	Date
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1 INTRODUCTION

1.1 Document Overview

This document defines the system configuration for the external TD communications of the Cambridge Integrated Electronic Control Centre (IECC) A (1) located at Cambridge PSB.

The following information is supplied for each external link:

- Link Characteristics
- Train Describer (TD) berths transmitted and received
- Signalling items transmitted and received (where appropriate)
- Subsystems which will be informed of changes in remote link status.

1.2 Abbreviations

CEG Combined ECS and GWS subsystem
ECS External Communication Subsystem
DIS Flexible Display Subsystem
GWS Gateway Subsystem
IDPM IECC Data Preparation Manual
IECC Integrated Electronic Control Centre
PSB Power Signal Box
SMART Signal Monitoring and Reporting of Trains
TD Train Describer

1.3 Related Documents

IECC Application Manuals	NR/SP/SIG/10040 Issue 8
IDPM 1302 External Communications	SAO-IEC-HD-56 Issue 3

1.4 IECC Scalable Conversion

The table below defines how the CEG ports in IECC Classic data are allocated to physical ports on IECC Scalable hardware. CEG channels 1 to 14 are located on port server A1, whilst channels 15 to 28 are on port server B1. The inter-unit links (on CEG channels 29 and 30) communicate via Ethernet using IP addresses and are therefore not allocated to port servers like the other CEG channels.

Link Name	IECC Scalable		IECC Classic
	Port Server No.	Port Server Physical Port	CEG Port No.
SMART PC 1	A1	1	1
Cambridge Panel TD	A1	6	6
SMART PC 2	B1	1	15
Colchester PSB	B1	6	20

2 OVERVIEW

2.1 All berths known to IECC

2.1.1 DIS1

8019	8024	8034	8041	8044	8061	8063	8064
8066	8069	8078	8081	8083	8084	8086	8103
8104	8109	8110	8113	8114	8118	8129	8134
8149	A801	A803	A808	LSCE	RDCE	SDCE	
8148	8153	8155	8158	8164	8167	8173	8176
8177	8178	8179	8195	8198	8219	8221	8223
8225	8230	8234	8236	8237	8246	C877	C878
LSCR	RDCR	SDCR					

2.2 Berths from Cambridge Panel TD

The following berths belong to TD Map Area *CAMB:*

8019	A801	A803	A808

2.3 Berths from Colchester PSB

The following berths belong to TD Map Area *COLC:*

C877	C878	8246

2.4 Early Transmission and ARS Strike-in Berths

Any berth that is updated by a remote system, whose update needs to be known to ARS or any DIS, is an Early Transmission Berth. This list of berths is split into the various DIS subsystems on the IECC, as the data specifies which DIS each listed berth is sent to. The berths required by ARS (for strike-in purposes) used to be separately listed, but this is no longer done due to a code fault; now any such berth is included in the relevant DIS list (as the berths in a DIS list are sent to ARS anyway).

2.4.1 ARS Strike-In Berths

Included within the Early Transmission Berths.

2.4.2 Early Transmission Berths - DIS1

8019	A801	A803	A808
C877	C878	8246	

2.5 Identities

No S-class identities are being transmitted across the fringes.

3 LINK TO SMART PC 1

3.1 Overview

This remote system link operates from port 1. It is a link to SMART with **ETB** type initialisation.

3.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	1	Time-Out Period (secs)	2
Physical Name	P1	Message Retry Count	3
Area	SMC1	Message Retry Field Flag	Set
Protocol	BR1810	Incoming Message Header	CBCCS1
Baud Rate	9600	Outgoing Message Header	CS1CBC

3.3 Berths

Changes in the contents of **ALL** berths known to the IECC are transmitted to SMART PC 1 **EXCEPT:**

A801 A803 LSCE RDCE SDCE C878 LSCR RDCR SDCR

Berths shall be transmitted to SMART PC 1 when the link is initialised, i.e. SENDSTART field should be set to **ALL**.

Changes in the contents of the following berths are received from SMART PC 1:

None

3.4 Signalling Items

Changes in the status of the following signalling items are transmitted to SMART PC 1:

/ Address 00-0EF

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R8019A(M)	R8024A(M)	R8011	R5012	R5013	R8034A(M)	R8041A(M)	R8044A(M)
R5016	R5017	R8061A(M)	R8061A(C)	R8061B(M)	R8064A(M)	R8066A(M)	R8081A(M)
R8083A(M)	R8086A(M)	R8086B(M)	R8063A(S)	R8063B(S)	R8069A(S)	R8078A(S)	R8078B(S)
R8084A(S)	R8084B(S)	R5020	R5021	R8104A(M)	R8109A(M)	R8110A(M)	R8113A(M)
R8118A(M)	R8103A(S)	R8103B(S)	R8114A(S)	R5024	R5025	- R8129A(M)	R8134A(M)
-	-	-	S8019IND	S8024IND	-	S8011	S8034IND
-	-	S8041IND	S8044IND	-	-	S8061IND	S8064IND
S8066IND	S8081IND	S8083IND	S8086IND	-	S8063IND	S8069IND	S8078IND
S8084IND	-	S8104IND	S8109IND	S8110IND	S8113IND	S8118IND	-
S8103IND	S8114IND	-	S8129IND	S8134 S8134IND	-	-	TABZ
TACM	TADC	TALB	TALC	TAWH	TAWK	TAVW -	TAWM
TAYG	TTB/-/TD	-	-	LSG(SHIP)	LSG(LAKE)	LSG(BRAN)	LSG(THET)
LSG(HARL)	L(SH)X(UP)K	L(SH)X(DN)K	L(SH)(LCU)K	L(LH)X(UP)K	L(LH)X(DN)K	L(LH)(LCU)K	L(BR)X(UP)K
L(BR)X(DN)K	L(BR)(LCU)K	-	-	-	L(CH)X(UP)K	L(CH)X(WK)K	L(SA)X(UP)K

L(SA)X(WK)K	L(TM)X(UP)K	L(TM)X(WK)K	L(CR)X(UP)K	L(CR)X(WK)K	L(L8)X(FLD)K	-	-
-	R5028	R5029	R8148A(M)	R8149A(M)	R8164A(M)	R8167A(M)	R8153A(S)

/ Address 10-1C

BIT 1	**BIT 2**	**BIT 3**	**BIT 4**	**BIT 5**	**BIT 6**	**BIT 7**	**BIT 8**
R8155A(S)	R8158A(S)	R8158B(S)	R5032	R5033	R8173A(M)	R8176A(M)	R8177A(M)
R8178A(M)	R8179A(M)	R5036	R5037	R8195A(M)	R8198A(M)	R5040	R5041
R8219A(M)	R8221A(M)	R8230A(M)	R8234A(M)	R8236A(M)	R8236B(S)	R8236C(M)	R8237A(M)
R8246A(M)	R8223A(S)	R8223B(S)	R8225A(S)	R5044	R5045	-	-
S8148IND	S8149IND	S8164IND	S8167IND	S8153IND	S8155IND	S8158IND	-
S8179IND	S8173IND	S8176IND	S8177IND	S8178IND	S8195IND	S8198IND	S8219IND
S8221IND	S8230IND	S8234IND	S8236IND	S8237IND	S8246IND	S8223IND	S8225IND
TADK	TAVP	TADL	TAVB	TAEH	TALF	TARY	TAEL
T1782	-	LSG(ECCL)	LSG(POPF)	LSG(ATTL)	LSG(SPOO)	LSG(WYMN)	-
L(HR)X(UP)K	L(HR)X(DN)K	L(HR)(LCU)K	L(ER)X(UP)K	L(ER)X(DN)K	L(ER)(LCU)K	L(PF)X(UP)K	L(PF)X(DN)K
L(PF)(LCU)K	L(AT)X(UP)K	L(AT)X(DN)K	L(AT)(LCU)K	L(SR)X(UP)K	L(SR)X(DN)K	L(SR)(LCU)K	L(HA)X(UP)K
L(HA)X(WK)K	L(SP)X(UP)K	L(SP)X(WK)K	L(SU)X(UP)K	L(SU)X(WK)K	L(BK)X(UP)K	L(BK)X(WK)K	L(SL)X(FLD)K
LMNLRELR	LMNLRELS	-	-	-	-	-	-

Changes in the status of the following signalling items are received from SMART PC 1:

None

3.5 Link Status

Changes in the status of remote links are sent to DIS1.

4 LINK TO CAMBRIDGE PANEL TD

4.1 Overview

This remote system link operates from port 6. It is a link to Cambridge Panel TD with **RECALL** type initialisation.

4.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	6	Time-Out Period (secs)	2
Physical Name	P6	Message Retry Count	3
Area	CAMB	Message Retry Field Flag	Set
Protocol	BR1810	Incoming Message Header	CBCCBP
Baud Rate	1200	Outgoing Message Header	CBPCBC

Further configuration details related to the link initialisation shall be as below:

a) Upon receiving a CY message with an unknown berth, the CEG shall reply with a CF message containing “OPER” as the train description (i.e. the BERTH RECALL UNKNOWN BERTH field in IECC data shall be set to “REPLY”).

b) Upon receiving a CY message for a berth which is empty, the CEG shall reply with a CF message containing “NONE” as the train description (i.e. the BERTH RECALL EMPTY BERTH field in IECC data shall be set to “REPLY NONE”).

c) The CEG shall assume a non-reply to any CY message it sends if it does not receive the corresponding CF message within 2 seconds after sending the CY message (i.e. the BERTH RECALL TIMEOUT field in IECC data shall be set to the value of 4).

4.3 Berths

Changes in the contents of the following berths are transmitted to Cambridge Panel TD:

8019 8024 A808

Upon transmit, berth renaming is implemented as follows (the value on the left within the brackets being the IECC identity):

{A808 0808}

Changes in the contents of the following berths are received from Cambridge Panel TD:

8019 A801 A803 A808

Upon receipt, berth renaming is implemented as follows (the value on the left within the brackets being the IECC identity):

{A801 0801}

{A803 0803}
{A808 0808}

All the above received berths shall be requested from Cambridge Panel TD upon recovery of this link (i.e. the QUERY field in IECC data shall be set to “ALL”).

4.4 Signalling Items

No S-class item is being transmitted across this link.

4.5 Link Status

Changes in the status of this remote link are sent to DIS1.

5 LINK TO SMART PC 2

5.1 Overview

This remote system link operates from port 15. It is a link to SMART with **ETB** type initialisation.

5.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	15	Time-Out Period (secs)	2
Physical Name	PF	Message Retry Count	3
Area	SMC2	Message Retry Field Flag	Set
Protocol	BR1810	Incoming Message Header	CBCCS2
Baud Rate	9600	Outgoing Message Header	CS2CBC

5.3 Berths

Changes in the contents of **ALL** berths known to the IECC are transmitted to SMART PC 2 **EXCEPT:**

A801 A803 LSCE RDCE SDCE C878 LSCR RDCR SDCR

Berths shall be transmitted to SMART PC 2 when the link is initialised, i.e. SENDSTART field should be set to **ALL**.

Changes in the contents of the following berths are received from SMART PC 2:

None

5.4 Signalling Items

Changes in the status of the following signalling items are transmitted to SMART PC 2:

/ Address 00-0EF

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R8019A(M)	R8024A(M)	R8011	R5012	R5013	R8034A(M)	R8041A(M)	R8044A(M)
R5016	R5017	R8061A(M)	R8061A(C)	R8061B(M)	R8064A(M)	R8066A(M)	R8081A(M)
R8083A(M)	R8086A(M)	R8086B(M)	R8063A(S)	R8063B(S)	R8069A(S)	R8078A(S)	R8078B(S)
R8084A(S)	R8084B(S)	R5020	R5021	R8104A(M)	R8109A(M)	R8110A(M)	R8113A(M)
R8118A(M)	R8103A(S)	R8103B(S)	R8114A(S)	R5024	R5025	- R8129A(M)	R8134A(M)
-	-	-	S8019IND	S8024IND	-	S8011	S8034IND
-	-	S8041IND	S8044IND	-	-	S8061IND	S8064IND
S8066IND	S8081IND	S8083IND	S8086IND	-	S8063IND	S8069IND	S8078IND
S8084IND	-	S8104IND	S8109IND	S8110IND	S8113IND	S8118IND	-
S8103IND	S8114IND	-	S8129IND	S8134 S8134IND	-	-	TABZ
TACM	TADC	TALB	TALC	TAWH	TAWK	TAVW -	TAWM
TAYG	TTB/-/TD	-	-	LSG(SHIP)	LSG(LAKE)	LSG(BRAN)	LSG(THET)
LSG(HARL)	L(SH)X(UP)K	L(SH)X(DN)K	L(SH)(LCU)K	L(LH)X(UP)K	L(LH)X(DN)K	L(LH)(LCU)K	L(BR)X(UP)K
L(BR)X(DN)K	L(BR)(LCU)K	-	-	-	L(CH)X(UP)K	L(CH)X(WK)K	L(SA)X(UP)K

L(SA)X(WK)K	L(TM)X(UP)K	L(TM)X(WK)K	L(CR)X(UP)K	L(CR)X(WK)K	L(L8)X(FLD)K	-	-
-	R5028	R5029	R8148A(M)	R8149A(M)	R8164A(M)	R8167A(M)	R8153A(S)

/ Address 10-1C

BIT 1	**BIT 2**	**BIT 3**	**BIT 4**	**BIT 5**	**BIT 6**	**BIT 7**	**BIT 8**
R8155A(S)	R8158A(S)	R8158B(S)	R5032	R5033	R8173A(M)	R8176A(M)	R8177A(M)
R8178A(M)	R8179A(M)	R5036	R5037	R8195A(M)	R8198A(M)	R5040	R5041
R8219A(M)	R8221A(M)	R8230A(M)	R8234A(M)	R8236A(M)	R8236B(S)	R8236C(M)	R8237A(M)
R8246A(M)	R8223A(S)	R8223B(S)	R8225A(S)	R5044	R5045	-	-
S8148IND	S8149IND	S8164IND	S8167IND	S8153IND	S8155IND	S8158IND	-
S8179IND	S8173IND	S8176IND	S8177IND	S8178IND	S8195IND	S8198IND	S8219IND
S8221IND	S8230IND	S8234IND	S8236IND	S8237IND	S8246IND	S8223IND	S8225IND
TADK	TAVP	TADL	TAVB	TAEH	TALF	TARY	TAEL
T1782	-	LSG(ECCL)	LSG(POPF)	LSG(ATTL)	LSG(SPOO)	LSG(WYMN)	-
L(HR)X(UP)K	L(HR)X(DN)K	L(HR)(LCU)K	L(ER)X(UP)K	L(ER)X(DN)K	L(ER)(LCU)K	L(PF)X(UP)K	L(PF)X(DN)K
L(PF)(LCU)K	L(AT)X(UP)K	L(AT)X(DN)K	L(AT)(LCU)K	L(SR)X(UP)K	L(SR)X(DN)K	L(SR)(LCU)K	L(HA)X(UP)K
L(HA)X(WK)K	L(SP)X(UP)K	L(SP)X(WK)K	L(SU)X(UP)K	L(SU)X(WK)K	L(BK)X(UP)K	L(BK)X(WK)K	L(SL)X(FLD)K
LMNLRELR	LMNLRELS	-	-	-	-	-	-

Changes in the status of the following signalling items are received from SMART PC 2:

None

5.5 Link Status

Changes in the status of remote links are sent to DIS1.

6 LINK TO COLCHESTER PSB

6.1 Overview

This remote system link operates from port 20. It is a link to Colchester PSB with **RECALL** type initialisation.

6.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	20	Time-Out Period (secs)	2
Physical Name	PK	Message Retry Count	3
Area	COLC	Message Retry Field Flag	Set
Protocol	BR1810	Incoming Message Header	CBCCLP
Baud Rate	1200	Outgoing Message Header	CLPCBC

Further configuration details related to the link initialisation shall be as below:

a) Upon receiving a CY message with an unknown berth, the CEG shall reply with a CF message containing “OPER” as the train description (i.e. the BERTH RECALL UNKNOWN BERTH field in IECC data shall be set to “REPLY”).

b) Upon receiving a CY message for a berth which is empty, the CEG shall reply with a CF message containing “NONE” as the train description (i.e. the BERTH RECALL EMPTY BERTH field in IECC data shall be set to “REPLY NONE”).

c) The CEG shall assume a non-reply to any CY message it sends if it does not receive the corresponding CF message within 2 seconds after sending the CY message (i.e. the BERTH RECALL TIMEOUT field in IECC data shall be set to the value of 4).

6.3 Berths

Changes in the contents of the following berths are transmitted to Colchester PSB:

8237 8246 C877

Changes in the contents of the following berths are received from Colchester PSB:

C877 C878 8246

All the above received berths shall be requested from Colchester PSB upon recovery of this link (i.e. the QUERY field in IECC data shall be set to “ALL”).

6.4 Signalling Items

No S-class item is being transmitted across this link.

6.5 Link Status

Changes in the status of this remote link are sent to DIS1.

7 INTER-UNIT LINK (1)

7.1 Overview

This CEG-CEG remote system link operates from port 29. It is a link between the Master/Standby subsystems, with **TD** type initialisation.

7.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	29	Baud Rate	19200 (#1)
Physical Name	PT	Time-Out Period (secs)	1
Area	CEG1	Message Retry Count	8
Protocol	BR1810	Message Retry Field Flag	Set

#1 – In IECC Scalable, this link is provided over Ethernet; Baud Rate specified here only for inclusion in IECC data, which is still in IECC Classic format.

7.3 Berths

Changes in the contents of **ALL** berths known to the IECC are transmitted by the Master CEG subsystem to the Standby CEG subsystem (these berths are therefore shown as both sent and received in CEG data).

7.4 Signalling items

Changes in the status of the following signalling items are transmitted by the Master CEG subsystem to the Standby CEG subsystem (these signalling items are therefore shown as both sent and received in CEG data).

/ Address 00-0EF

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R8019A(M)	R8024A(M)	R8011	R5012	R5013	R8034A(M)	R8041A(M)	R8044A(M)
R5016	R5017	R8061A(M)	R8061A(C)	R8061B(M)	R8064A(M)	R8066A(M)	R8081A(M)
R8083A(M)	R8086A(M)	R8086B(M)	R8063A(S)	R8063B(S)	R8069A(S)	R8078A(S)	R8078B(S)
R8084A(S)	R8084B(S)	R5020	R5021	R8104A(M)	R8109A(M)	R8110A(M)	R8113A(M)
R8118A(M)	R8103A(S)	R8103B(S)	R8114A(S)	R5024	R5025	- R8129A(M)	R8134A(M)
-	-	-	S8019IND	S8024IND	-	S8011	S8034IND
-	-	S8041IND	S8044IND	-	-	S8061IND	S8064IND
S8066IND	S8081IND	S8083IND	S8086IND	-	S8063IND	S8069IND	S8078IND
S8084IND	-	S8104IND	S8109IND	S8110IND	S8113IND	S8118IND	-
S8103IND	S8114IND	-	S8129IND	S8134 S8134IND	-	-	TABZ
TACM	TADC	TALB	TALC	TAWH	TAWK	TAVW -	TAWM
TAYG	TTB/-/TD	-	-	LSG(SHIP)	LSG(LAKE)	LSG(BRAN)	LSG(THET)
LSG(HARL)	L(SH)X(UP)K	L(SH)X(DN)K	L(SH)(LCU)K	L(LH)X(UP)K	L(LH)X(DN)K	L(LH)(LCU)K	L(BR)X(UP)K
L(BR)X(DN)K	L(BR)(LCU)K	-	-	-	L(CH)X(UP)K	L(CH)X(WK)K	L(SA)X(UP)K
L(SA)X(WK)K	L(TM)X(UP)K	L(TM)X(WK)K	L(CR)X(UP)K	L(CR)X(WK)K	L(L8)X(FLD)K	-	-
-	R5028	R5029	R8148A(M)	R8149A(M)	R8164A(M)	R8167A(M)	R8153A(S)

/ Address 10-1C

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R8155A(S)	R8158A(S)	R8158B(S)	R5032	R5033	R8173A(M)	R8176A(M)	R8177A(M)
R8178A(M)	R8179A(M)	R5036	R5037	R8195A(M)	R8198A(M)	R5040	R5041
R8219A(M)	R8221A(M)	R8230A(M)	R8234A(M)	R8236A(M)	R8236B(S)	R8236C(M)	R8237A(M)
R8246A(M)	R8223A(S)	R8223B(S)	R8225A(S)	R5044	R5045	-	-
S8148IND	S8149IND	S8164IND	S8167IND	S8153IND	S8155IND	S8158IND	-
S8179IND	S8173IND	S8176IND	S8177IND	S8178IND	S8195IND	S8198IND	S8219IND
S8221IND	S8230IND	S8234IND	S8236IND	S8237IND	S8246IND	S8223IND	S8225IND
TADK	TAVP	TADL	TAVB	TAEH	TALF	TARY	TAEL
T1782	-	LSG(ECCL)	LSG(POPF)	LSG(ATTL)	LSG(SPOO)	LSG(WYMN)	-
L(HR)X(UP)K	L(HR)X(DN)K	L(HR)(LCU)K	L(ER)X(UP)K	L(ER)X(DN)K	L(ER)(LCU)K	L(PF)X(UP)K	L(PF)X(DN)K
L(PF)(LCU)K	L(AT)X(UP)K	L(AT)X(DN)K	L(AT)(LCU)K	L(SR)X(UP)K	L(SR)X(DN)K	L(SR)(LCU)K	L(HA)X(UP)K
L(HA)X(WK)K	L(SP)X(UP)K	L(SP)X(WK)K	L(SU)X(UP)K	L(SU)X(WK)K	L(BK)X(UP)K	L(BK)X(WK)K	L(SL)X(FLD)K
LMNLRELR	LMNLRELS	-	-	-	-	-	-

7.5 Link Status

Changes in the status of the remote links are sent to DIS1.

8 INTER-UNIT LINK (2)

8.1 Overview

This CEG-CEG remote system link operates from port 30. It is a link between the Master/Standby subsystems, with **TD** type initialisation.

8.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	30	Baud Rate	19200 (#1)
Physical Name	PU	Time-Out Period (secs)	1
Area	CEG2	Message Retry Count	8
Protocol	BR1810	Message Retry Field Flag	Set

#1 – In IECC Scalable, this link is provided over Ethernet; Baud Rate specified here only for inclusion in IECC data, which is still in IECC Classic format.

8.3 Berths

Changes in the contents of **ALL** berths known to the IECC are transmitted by the Master CEG subsystem to the Standby CEG subsystem (these berths are therefore shown as both sent and received in CEG data).

8.4 Signalling items

Changes in the status of the following signalling items are transmitted by the Master CEG subsystem to the Standby CEG subsystem (these signalling items are therefore shown as both sent and received in CEG data).

/ Address 00-0EF

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R8019A(M)	R8024A(M)	R8011	R5012	R5013	R8034A(M)	R8041A(M)	R8044A(M)
R5016	R5017	R8061A(M)	R8061A(C)	R8061B(M)	R8064A(M)	R8066A(M)	R8081A(M)
R8083A(M)	R8086A(M)	R8086B(M)	R8063A(S)	R8063B(S)	R8069A(S)	R8078A(S)	R8078B(S)
R8084A(S)	R8084B(S)	R5020	R5021	R8104A(M)	R8109A(M)	R8110A(M)	R8113A(M)
R8118A(M)	R8103A(S)	R8103B(S)	R8114A(S)	R5024	R5025	- R8129A(M)	R8134A(M)
-	-	-	S8019IND	S8024IND	-	S8011	S8034IND
-	-	S8041IND	S8044IND	-	-	S8061IND	S8064IND
S8066IND	S8081IND	S8083IND	S8086IND	-	S8063IND	S8069IND	S8078IND
S8084IND	-	S8104IND	S8109IND	S8110IND	S8113IND	S8118IND	-
S8103IND	S8114IND	-	S8129IND	S8134 S8134IND	-	-	TABZ
TACM	TADC	TALB	TALC	TAWH	TAWK	TAVW -	TAWM
TAYG	TTB/-/TD	-	-	LSG(SHIP)	LSG(LAKE)	LSG(BRAN)	LSG(THET)
LSG(HARL)	L(SH)X(UP)K	L(SH)X(DN)K	L(SH)(LCU)K	L(LH)X(UP)K	L(LH)X(DN)K	L(LH)(LCU)K	L(BR)X(UP)K
L(BR)X(DN)K	L(BR)(LCU)K	-	-	-	L(CH)X(UP)K	L(CH)X(WK)K	L(SA)X(UP)K
L(SA)X(WK)K	L(TM)X(UP)K	L(TM)X(WK)K	L(CR)X(UP)K	L(CR)X(WK)K	L(L8)X(FLD)K	-	-
-	R5028	R5029	R8148A(M)	R8149A(M)	R8164A(M)	R8167A(M)	R8153A(S)

/ Address 10-1C

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R8155A(S)	R8158A(S)	R8158B(S)	R5032	R5033	R8173A(M)	R8176A(M)	R8177A(M)
R8178A(M)	R8179A(M)	R5036	R5037	R8195A(M)	R8198A(M)	R5040	R5041
R8219A(M)	R8221A(M)	R8230A(M)	R8234A(M)	R8236A(M)	R8236B(S)	R8236C(M)	R8237A(M)
R8246A(M)	R8223A(S)	R8223B(S)	R8225A(S)	R5044	R5045	-	-
S8148IND	S8149IND	S8164IND	S8167IND	S8153IND	S8155IND	S8158IND	-
S8179IND	S8173IND	S8176IND	S8177IND	S8178IND	S8195IND	S8198IND	S8219IND
S8221IND	S8230IND	S8234IND	S8236IND	S8237IND	S8246IND	S8223IND	S8225IND
TADK	TAVP	TADL	TAVB	TAEH	TALF	TARY	TAEL
T1782	-	LSG(ECCL)	LSG(POPF)	LSG(ATTL)	LSG(SPOO)	LSG(WYMN)	-
L(HR)X(UP)K	L(HR)X(DN)K	L(HR)(LCU)K	L(ER)X(UP)K	L(ER)X(DN)K	L(ER)(LCU)K	L(PF)X(UP)K	L(PF)X(DN)K
L(PF)(LCU)K	L(AT)X(UP)K	L(AT)X(DN)K	L(AT)(LCU)K	L(SR)X(UP)K	L(SR)X(DN)K	L(SR)(LCU)K	L(HA)X(UP)K
L(HA)X(WK)K	L(SP)X(UP)K	L(SP)X(WK)K	L(SU)X(UP)K	L(SU)X(WK)K	L(BK)X(UP)K	L(BK)X(WK)K	L(SL)X(FLD)K
LMNLRELR	LMNLRELS	-	-	-	-	-	-

8.5 Link Status

Changes in the status of the remote links are sent to DIS1.