

LIVERPOOL STREET SC

STRATFORD IECC B

EXTERNAL COMMUNICATIONS SUBSYSTEM
DATA SPECIFICATION

A02LIV-IECB-Q-ECS-001

VERSION AJ2

Controlled Copy No.

ISSUE and AMENDMENT RECORD

Version	Prod	Chk	Date	Details of change
AJ1	■	■	03/03/2015	Initial issue of document, produced from the following documents: Berth Attribute Tables: A02LIV-3206D-Q-BA1 Version AMQ2 A02LIV-3206D-Q-BA2 Version AKM1 A02LIV-3206D-Q-BA3 Version AMQ2 ECS Port Allocations: A02LIV-3206D-Q-ECS Version AKM1 ECS Signalling Items: A02LIV-3206D-Q-ECS-01 There are no design or data changes in this version.
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1 INTRODUCTION

1.1 Document Overview

This document defines the system configuration for the external Train Describer (TD) and other system communications associated with Stratford Integrated Electronic Control Centre (IECC). The following information is supplied for each link:

- Link Characteristics
- 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

ARS	Automatic Routesetting Subsystem
DIS	Flexible Display Subsystem
ECS	External Communication Subsystem
GWS	Gateway Subsystem
IDPM	IECC Data Preparation Manual
IECC	Integrated Electronic Control Centre
SMART	Signal Monitoring and Reporting of Trains
TD	Train Describer

1.3 Related Documents

IECC Application Contents Manual.

NR/SP/SIG/10040 Issue 8

IDPM 1302 External Communications Reference

SAO-IEC-HD-56 Issue 4.1

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2 OVERVIEW

2.1 All Berths known to the IECC

The following is a complete list of all berths within Stratford IECC B.

2.1.1 DIS1

0203	0220	0221	0222	0223	0224	0225	0226	0227	0228
0229	0230	0231	0234	0235	0237	0239	0240	0241	0242
0244	0245	0248	0249	0250	0251	0252	0253	0254	0255
0256	0257	0258	0259	0261	0262	0263	0264	0265	0266
0267	0268	0269	0270	0273	0274	0275	0276	0277	0278
0279	0281	0283	0284	0285	0286	0287	0288	0289	0290
0291	0292	0293	0294	0295	0296	0297	0298	0299	0300
0301	0303	0304	0305	0306	0307	0308	0309	0310	0311
0313	0314	0315	0316	0317	0319	0320	0321	0323	0324
0325	0326	0328	0330	0332	0334	0336	0338	0340	1294
1296	5057	5065	5070	ADCR	AFDB	AFUB	APPE	AUCC	B292
BOWJ	LSBY	LSCS	LSDC	LSDE	LSDM	LSDS	LSUE	LSUM	LSUR
LWDB	LWUB	QAP3	QAP4	R095	R201	R336	R364	RAPP	RCAP
RPPU	RRAP	RWDB	RWUB	SDDJ	SDTM	SS01	SS97	SWDB	SWUB
T291	T309	U518	UAPP						

2.1.2 DIS2

0327	0329	0331	0333	0335	0337	0339	0341	0343	0345
0346	0347	0349	0350	0351	0352	0353	0354	0355	0356
0357	0358	0359	0360	0361	0362	0363	0364	0365	0367
0368	0369	0370	0371	0372	0373	0374	0375	0376	0377
0378	0379	0380	0381	0382	0383	0384	0385	0386	0387
0388	0389	0390	0391	0392	0393	0394	0395	0396	0397
0398	0399	0400	0401	0402	0403	0404	0405	0406	0407
0408	0409	0410	0411	0412	0413	0414	0415	0416	0417
0418	0419	0420	0421	0422	0423	0424	0425	0426	0427
0428	0429	0430	0431	0432	0433	0435	0436	0437	0438
0439	0440	0441	0442	0443	0444	0445	0446	0447	0448
0449	0450	0452	0454	0456	0458	0460	0462	0464	0466
0468	0470	0472	0474	0476	0478	0480	0951	0953	5078
5080	5082	5084	5086	5087	5088	5096	5099	5100	5101
5102	5104	5105	5107		5109	5111	5113	5114	5116
5118		5121		5125	A366	A936	ALDS		
B366	B936	DELS	DMLS	F366	F936	GFAC	GFAL		
ICIN	IFAC	IFAL	PALS	Q336	Q338			R309	R366
R486	R488	R936	RAS1	RAS2	RAS3	RAS4	RAS5	RCHS	RGP1
RGP2	RGP3	RGP4	RGP5	RGP6	RGPC	RGPL	RIFC	RIFL	ROM1
RRED	RROM	UELS	UMIN	UMLS	X101	X102	X103	X104	X106
X107	X108	X109	X110	X111	X112	X115	X116	XROM	

2.1.3 DIS3

0903	0904	0907	0909	0910	0911	0912	0913	0915	0918
0920	0921	0924	1003	1424	APP3	APP4	APPU	APST	APUT
AUHM	AWDB	AWUB	H704	LFDB	LFUB	LSBD	LSDT	LSDU	LSSJ
LSST	LUHM	RDHM	RFDB	RFUB	ROWC	S697	S700	S701	S703

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S704	S705	S706	S707	S708	S712	S713	S715	S716	S717
S718	S767	S770	S772	S901	S906	SFDB	SFUB		SSDT
SSSJ	ST26	SUHM	U601	U604	U902	U906	UTHB		

2.1.4 Liverpool Street

0055	0057	0059	0061	0063	0065	0071	0073	0075	0081
0083	0085	0091	0093	0095	0201	L054	L055	L056	L057
L058	L059	L060	L061	L063	L064	L065	L066	L068	L070
L071	L072	L073	L074	L075	L080	L081	L082	L083	L084
L085	L086	L090	L091	L092	L093	L094	L095	L200	L201
L202	L203	L210	L212	Q095					

2.1.5 Upminster

0604	0906	1261	1262	1264	1265	1268	1269	1270	1271
1272	1273	1274	1275	1276	1277	1278	1279	1280	1281
1282	1283	1284	1285	1286	1287	1288	1289	1290	1292
1294	1296	1401	1406	1420	1421	1422	1423	ADHM	CCAP
CRAP	F402	F404	L235	T906	U113	U115	U117	U119	U122
U123	U124	U125	U126	U127	U128	U129	U130	U138	U176
U516	U517	U532	U610	U612	U615	U616	U804	U908	U910
U916									

2.1.6 South Tottenham

RAST	ST12	ST13	ST16	ST18	ST19	ST20	ST21	ST22	ST23
ST24	ST25	ST27	ST29						

2.1.7 Ilford

Q361	Q378	Q380	Q382	Q384
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2.1.8 Gidea Park

Q431	Q439	Q458	Q464	Q468
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2.1.9 Shenfield

0451	0453	0455	0457	0459	0461	0463	0465	0467	0469
0471	0473	0475	0477	0479	0481	0482	0483	0484	0485
0486	0487	0488	0489	0490	0491	0492	0493	0494	0495
0496	0497	0498	0499	0500	0501	0502	0503	0504	0506
0508	0510	0512	0514	0516	0518	0522	0524		

2.1.10 West Anglia

1004	1005	1007	1009	1010	1011	1012	1013	1014	1015
1016	1017	1018	RDUT	ST17					

2.1.11 Orient Way Carriage Sidings

0032

2.2 Berths from Liverpool Street IECC A

The following berths belong to TD Area LVIE:

0055	0057	0059	0061	0063	0065	0071	0073	0075	0081
0083	0085	0091	0093	0095	0201	0203	0221	0223	Q095

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2.3 Berths from London, Tilbury & Southend (Main) IECC A

The following berths belong to TD Area **URIE**:

0604	0906	0918	0924	L235	T906	U113	U115	U117	U119
U122	U123	U124	U125	U126	U127	U128	U129	U130	U138
U176	U516	U517	U532	U610	U612	U615	U616	U804	U902
U908	U910	U916	UAPP						

2.4 Berths from West Anglia Great Northern IECC

The following berths belong to TD Area **WAGN**:

1004	1005	1007	1009	1010	1011	1012	1013	1014	1015
1016	1017	1018	RDUT	S718	ST17				

2.5 Berths from South Tottenham SB

The following berths belong to TD Area **STOT**:

0903	APST	RAST	ST12	ST13	ST16	ST18	ST19	ST20	ST21
ST22	ST23	ST24	ST25	ST26	ST27	ST29			

2.6 Berths from Ilford Fringe Box

The following berths belong to TD Area **ILFB**:

Q361	Q378	Q380	Q382	Q384
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2.7 Berths from Gidea Park Fringe Box

The following berths belong to TD Area **GPFB**:

Q431	Q439	Q458	Q464	Q468
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2.8 Berths from Liverpool Street CIS

The following berths belong to TD Area **LCIS**:

L054	L055	L056	L057	L058	L059	L060	L061	L063	L064
L065	L066	L068	L070	L071	L072	L073	L074	L075	L080
L081	L082	L083	L084	L085	L086	L090	L091	L092	L093
L094	L095	L200	L201	L202	L203	L210	L212		

2.9 Berths from Shenfield IECC

The following berths belong to TD Area **SHIE**:

0451	0453	0455	0457	0459	0461	0463	0465	0467	0469
0471	0473	0475	0477	0478	0479	0480	0481	0482	0483
0484	0485	0486	0487	0488	0489	0490	0491	0492	0493
0494	0495	0496	0497	0498	0499	0500	0501	0502	0503
0504	0506	0508	0510	0512	0514	0516	0518	0522	0524

2.10 Berths from North London Railway IECC

The following berths belong to TD Area **NLRC**:

0258	0269	1261	1262	1264	1265	1268	1269	1270	1271
1272	1273	1274	1275	1276	1277	1278	1279	1280	1281
1282	1283	1284	1285	1286	1287	1288	1289	1290	1292

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1294	1296	1401	1406	1420	1421	1422	1423	1424	ADHM
CCAP	CRAP	F402	F404	H704	S703				

2.11 Berths from Orient Way Carriage Sidings

The following berths belong to TD Area OWCS:

0032 S708 S717

2.12 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).

2.12.1 ARS Strike-In Berths

Included in the Early Transmission Berths.

2.12.2 Early Transmission Berths – DIS1

0055	0057	0059	0061	0063	0065	0071	0073	0075	0081
0083	0085	0091	0093	0095	0201	0203	0221	0223	0258
0269	1261	1262	1264	1265	1268	1269	1270	1271	1272
1273	1274	1275	1276	1277	1278	1279	1280	1281	1282
1283	1284	1285	1286	1287	1288	1289	1290	1292	1294
1296	1401	1406	1420	1421	1422	1423	1424	CCAP	CRAP
F402	F404	L235	Q095	U113	U115	U117	U119	U122	U123
U124	U125	U126	U127	U128	U129	U130	U138	U176	U516
U517	U532	UAPP							

2.12.3 Early Transmission Berths – DIS2

0451	0453	0455	0457	0459	0461	0463	0465	0467	0469
0471	0473	0475	0477	0478	0479	0480	0481	0482	0483
0484	0485	0486	0487	0488	0489	0490	0491	0492	0493
0494	0495	0496	0497	0498	0499	0500	0501	0502	0503
0504	0506	0508	0510	0512	0514	0516	0516	0522	0524
Q361	Q378	Q380	Q382	Q384	Q431	Q439	Q458	Q464	Q468

2.12.4 Early Transmission Berths – DIS3

0032	0604	0903	0906	0918	0924	1004	1005	1007	1009
1010	1011	1012	1013	1014	1015	1016	1017	1018	ADHM
APST	H704	RAST	RDUT	S703	S708	S717	S718	ST12	ST13
ST16	ST17	ST18	ST19	ST20	ST21	ST22	ST23	ST24	ST25
ST27	ST29	T906	U610	U612	U615	U616	U804	U902	U908
U910	U916								

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2.13 Identities

2.13.1 North London Railway IECC C

The following identities belong to TD Area **NLRC**:

R1285AMW	R1285BM	R1289BM	R1289CM	R1420BM	R1420CM	R1421	R1423
S1285	S1289	S1420	S1421	S1423			

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3 LINK TO LIVERPOOL STREET IECC A

3.1 Overview

This remote system link operates from ECS port 1. It is the link to Liverpool Street IECC A with TD type initialisation.

3.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	1	Baud Rate	1200
Physical Name	P1	Time-Out Period (secs)	2
Area	LVIE	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

3.3 Berths

Changes in the contents of the following berths will be transmitted to Liverpool Street IECC A:

0220	0222	0224	0226	0228	0230	0234	0240	0242	0244
0248	0250	0252	0254	0256	0258	0262	0264	0266	0268
0270	0274	0276	0278						

Changes in the contents of the following berths will be received from Liverpool Street IECC A:

0055	0057	0059	0061	0063	0065	0071	0073	0075	0081
0083	0085	0091	0093	0095	0201	0203	0221	0223	Q095

3.4 Link Status

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

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4 LINK TO SMART LINK 2

4.1 Overview

This remote system link operates from ECS port 2. It is the link to SMART Link 2 with **ETB** type initialisation.

4.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	2	Baud Rate	9600
Physical Name	P2	Time-Out Period (secs)	2
Area	SMT2	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

4.3 Berths

Changes in the contents of the following berths will be transmitted to SMART Link 2:

/ DIS1 Berths

0220	0221	0222	0223	0224	0225	0226	0227	0228	0229
0230	0231	0234	0235	0237	0239	0240	0241	0242	0244
0245	0248	0249	0250	0251	0252	0253	0254	0255	0256
0257	0258	0259	0261	0262	0263	0264	0265	0266	0267
0268	0269	0270	0273	0274	0275	0276	0277	0278	0279
0281	0283	0284	0285	0286	0287	0288	0289	0290	0291
0292	0293	0294	0296	0297	0298	0299	0300	0301	0303
0304	0305	0306	0307	0308	0309	0310	0311	0313	0314
0315	0316	0317	0319	0320	0321	0323	0324	0325	0326
0328	0330	0332	0334	0336	0338	0340	1294	1296	5057
5065	5070	B292	LSBY		U518				

/ DIS2 Berths

0327	0329	0331	0333	0335	0337	0339	0341	0343	0245
0346	0347	0349	0350	0351	0352	0353	0354	0355	0356
0357	0358	0359	0360	0361	0362	0363	0364	0365	0367
0368	0369	0370	0371	0372	0373	0374	0375	0376	0377
0378	0379	0380	0381	0382	0383	0384	0385	0386	0387
0388	0389	0390	0391	0392	0393	0394	0395	0396	0397
0398	0399	0400	0401	0402	0403	0404	0405	0406	0407
0408	0409	0410	0411	0412	0413	0414	0415	0416	0417
0418	0419	0420	0421	0422	0423	0424	0425	0426	0427
0428	0429	0430	0431	0432	0433	0435	0436	0438	0439
0440	0441	0442	0443	0444	0445	0446	0447	0448	0449
0450	0452	0454	0456	0458	0460	0462	0464	0468	0470
0472	0474	0476	0478	0480	0951	0953	5078	5080	5082
5084	5086	5087	5088	5096	5099	5100	5101	5102	5104
5105	5107	5109	5111	5113	5114	5116	5125	A366	A936
B366	B936		ICIN	R366	R936	RAS1	RAS2	RAS3	RAS4
RAS5	RCHS	RGP1	RGP2	RGP3	RGP4	RGP5	RGP6	RGPC	RGPL
RIFC	RIFL	ROM1	RRED	RROM	XROM	UMIN			

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/ DIS3 Berths

0032	0604	0903	0904	0906	0907	0909	0910	0911	0912
0913	0915	0918	0920	0921	0924	1003	1424	S697	S700
S701	S703	S704	S705	S706	S707	S708	S712	S713	S715
S716	S717	S718	S767	S770	S772	S901	S906	ST26	U601
U604	U902	U906	UTHB						

All the above berths shall be transmitted to SMART Link 2 when the link is initialised i.e. all the above berths should be contained within the SENDSTART section.

The following berths undergo a TD name translation before being transmitted to SMART Link 2. These are listed below with the value on the right being the transmitted name and the value on the left being the name used within the IECC:

{ST26 STAP} {B292 1292}

Changes in the contents of the following berth will be received from SMART Link 2:

None

4.4 Signalling Items

Note: The total number of required berths + S-Class items on this link and the Interlinks exceeds the IECC limit of 1024. Therefore, S-Class items have been rationalised in order to bring the number back down below 1024.

Changes on the status of the signalling items known to the IECC will be transmitted to SMART Link 2 as S-Class messages:

Address 00 - 0F

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R226AS	R226BM	R229AM	R229BM	R229CM	R231AM	R231BM	R235AM
R235BM	R240AM	R240BM	R240CM*	R242AM	R242BM	R242CM	R244AM
R244BM	R309AM	R309BM	R309CM	R311AM	R311BM	R313AM	R313BM
R317AM	R317BM	R326AM	R326BM	R328AM	R328BM	R328CM	R330AM
R330BM	R330CM	R330DM	R903AM	R904AM	R907AM	R907BM	R909AM
R910AM	R911AM	R912AM	R912BM	R913AM	R915AM	R918AM	R918BM
R920AM	R920BM	R355AMW*	R357AM	R357BM	R361AS	R361BM	R361CM
R386AMW*	R392AM	R392BS	R392CS	R400AM	R400BM	R416AS	R416BM
R427AMW*	R431AS	R431BM	R431CS	R433AM	R433BM	R435AM	R435BM
R437AM	R437BM	R437CS	R439AS	R439BM	R439CM	R464AM	R464BM
R464CS	R466AS	R466BM	R468AMC*	R468BMC*	R470AMW*	R474AM	R474BM
R476AM	R476BM	R329AM	R329BM	R337AS	R337BS	R337CS	R337DS
R337ES	R341AMC*	R341BM	R343AMC*	R343BM	R351AS	R351BS	R351CS
R351DM	R351EM	R353AS	R353BS	R353CS	R353DM	R354AM	R354BM
R364AM	R364BM	R370AMW*	R374AM	R374BM	R378AM	R378BM	R378CS
R380AM	R380BM	R380CM	R380DS	R382AM	R382BM	R384AM	R384BM

Address 10 – 1F

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R255AMW*	R257AM	R257CMC*	R267AMC*	R277AMW*	R283AM	R283BM	R283CM
R284AMC*	R285AM	R285BM	R287AMW*	R289AM	R289BM	R289CM	R289DM
R290AMC*	R290BM	R290CM*	R290DM	R291AM	R291BM	R291CM	R291DM
R292AM	R292BMC*	R292CM	R292DM	R293AM	R293BM	R294AM	R294BMC*
R304AM	R304BM	R306AM	R306BM	R308AM	R308BM	R308CM	R310AM
R310BM	R310CM	R310DM	R405AM	R405BM	R409AM	R409BM	R411AM
R411BM	R423AMW*	R442AS	R442BM	R442CM	R444AS	R444BM	R446AMW*

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BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R450AM	R450BS	R241AM	R241BM	R248AM	R248BM	R248CS	R249AM
R249BM	R250AM*	R250BM	R251AM	R251BM	R251CM	R253AM	R253BMW*
R253CM	R259AM	R259BM	R259CM	R261AM	R261BM	R261CM	R262AM
R262BM	R264AM	R264BM	R269AM	R269BM	R269CM	R270AM	R270BM
R270CM	R270DM	R273AM*	R273BM	R275AM	R275BM	R276AM	R276BM
R276CM	R276DM	R278AM	R278BM	R278CM	R278DM	R700BM	R700AM
R697M	R701AM	-	R703AM	-	R704AM	R704BM	R901AM
R705M	R706AM	R706BS	R707AM	R707BMC*	R707CS	R708AS	R708BM
R708CS	R712M	R713M	R715M	R716AS	R716BMC*	R716CM	R717AM

Address 20 - 2F

BIT1	BIT2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R717BS	S223	S226	S229	S231	S235	S240	S242
S244	S245	S309	S311	S313	S315	S317	S319
S326	S328	S330	S332	S334	S336	S338	S340
S355	S357	S359	S361	S367	S369	S386	S392
S394	S396	S398	S400	S408	S416	S424	S427
S429	S431	S433	S435	S437	S439	S441	S443
S458	S460	S464	S466	S468	S470	S472	S474
S476	S478	S480	S951	S953	S329	S335	S337
S341	S343	S345	S349	S351	S352	S353	S354
S360	S362	S364	S366	S368	S370	S374	S376
S378	S380	S382	S384	S255	S256	S257	S266
S267	S268	S277	S279	S283	S284	S285	S286
S287	S288	S289	S290	S291	S292	S293	S294
S295	S296	S299	S301	S304	S306	S308	S310
S399	S401	S405	S409	S411	S413	S423	S432
S438	S442	S444	S446	S450	S454	S234	S237

Address 30 - 36

BIT1	BIT2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
S239	S241	S248	S249	S250	S251	S252	S253
S254	S258	S259	S261	S262	S263	S264	S265
S269	S270	S273	S274	S275	S276	S278	S281
L361TRS	L431TRS	L439TRS	L458TRS	L460TRS	L464TRS	L468TRS	L5114TRS
L5078TRS	L5080TRS	L5082TRS	L5084TRS	L5086TRS	L378TRS	L366TRS	L380TRS
L368TRS	L382TRS	L384TRS	L362TRS	L951TRS	L953TRS	R387AM	R387BM
R420AM	R422AM	R936AM	S387	S420	S422	S936	-

The following table details the meshed routes (indicated by a * in the above tables). The meshed route is set when any of the individual route items are set.

Meshed Route Name	Individual Route Items constituting the Meshed Route			
R240CM	R240C1M	R240C2M		
R355AMW	R355AM	R355AW		
R386AMW	R386AM	R386AW		
R427AMW	R427AM	R427AW		
R468AMC	R468AM	R468AC		
R468BMC	R468BM	R468BC		
R470AMW	R470AM	R470AW		
R341AMC	R341AM	R341AC		
R343AMC	R343AM	R343AC		
R370AMW	R370AM	R370AW		
R255AMW	R255AM	R255AW		
R257CMC	R257CM	R257CC		

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Meshed Route Name	Individual Route Items constituting the Meshed Route			
R267AMC	R267AM	R267AC		
R277AMW	R277AM	R277AW		
R284AMC	R284AM	R284AC		
R287AMW	R287AM	R287AW		
R290AMC	R290AM	R290AC		
R290CM	R290C1M	R290C2M		
R292BMC	R292B1M	R292B1C	R292B2M	R292B2C
R294BMC	R294BM	R294BC		
R423AMW	R423AM	R423AW		
R446AMW	R446AM	R446AW		
R250AM	R250A1M	R250A2M		
R253BMW	R253BM	R253BW		
R273AM	R273A1M	R273A2M		
R707BMC	R707BM	R707BC		
R716BMC	R716BM	R716BC		

4.5 Link Status

Changes in the status of this remote link are sent to DIS1, DIS2 and DIS3.

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5 LINK TO UPMINSTER IECC A

5.1 Overview

This remote system link operates from ECS port 3. It is the link to Upminster IECC A with **TD** type initialisation.

5.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	3	Baud Rate	1200
Physical Name	P3	Time-Out Period (secs)	2
Area	URIE	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

5.3 Berths

Changes in the contents of the following berths will be transmitted to Upminster IECC A:

0913 0915 0918 0920 0921 0924 U518 U601 BOWJ UAPP

The following berths undergo a TD name translation before being transmitted to Upminster IECC A. These are listed below with the value on the right being the transmitted name and the value on the left being the name used within the IECC:

{0913 L913} {0915 L915} {0920 L920} {0921 L921}
{U601 0601}

Changes in the contents of the following berths will be received from Upminster IECC A:

0604 0906 0918 0924 L235 T906 U113 U115 U117 U119
U122 U123 U124 U125 U126 U127 U128 U129 U130 U138
U176 U516 U517 U532 U610 U612 U615 U616 U804 U902
U908 U910 U916 UAPP

5.4 Link Status

Changes in the status of this remote link are sent to DIS1 and DIS3.

Version AJ2	Drg No A02LIV-IECB-Q-ECS-001	STRATFORD IECC EXTERNAL COMMUNICATIONS SUBSYSTEM DATA SPECIFICATION
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6 INTER-UNIT LINK (1)

6.1 Overview

This ECS-ECS remote system link operates from ECS port 4. It is the link between the ECS Master and Standby Units and uses **TD** type initialisation.

6.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	4	Baud Rate	19200
Physical Name	P4	Time-Out Period (secs)	1
Area	ECSL	Message Retry Count	8
Protocol	BR1810	Message Retry Field Flag	Set

6.3 Berths

Changes in the contents of **ALL** berths known to the IECC are transmitted from the Master ECS computer unit to the Standby ECS computer unit (these berths are therefore shown in both the **SEND** and **RECEIVE** sections in the ECS data).

6.4 Signalling Items

Note: The total number of required berths + S-Class items on this link and the Interlinks exceeds the IECC limit of 1024. Therefore, S-Class items have been rationalised in order to bring the number back down below 1024.

Changes on the status of the following signalling items will be transmitted by the Master ECS unit to the Standby ECS unit and vice-versa.

Address 00 - 0F

BITS 1	BITS 2	BITS 3	BITS 4	BITS 5	BITS 6	BITS 7	BITS 8
R226AS	R226BM	R229AM	R229BM	R229CM	R231AM	R231BM	R235AM
R235BM	R240AM	R240BM	R240CM*	R242AM	R242BM	R242CM	R244AM
R244BM	R309AM	R309BM	R309CM	R311AM	R311BM	R313AM	R313BM
R317AM	R317BM	R326AM	R326BM	R328AM	R328BM	R328CM	R330AM
R330BM	R330CM	R330DM	R903AM	R904AM	R907AM	R907BM	R909AM
R910AM	R911AM	R912AM	R912BM	R913AM	R915AM	R918AM	R918BM
R920AM	R920BM	R355AMW*	R357AM	R357BM	R361AS	R361BM	R361CM
R386AMW*	R392AM	R392BS	R392CS	R400AM	R400BM	R416AS	R416BM
R427AMW*	R431AS	R431BM	R431CS	R433AM	R433BM	R435AM	R435BM
R437AM	R437BM	R437CS	R439AS	R439BM	R439CM	R464AM	R464BM
R464CS	R466AS	R466BM	R468AMC*	R468BMC*	R470AMW*	R474AM	R474BM
R476AM	R476BM	R329AM	R329BM	R337AS	R337BS	R337CS	R337DS
R337ES	R341AMC*	R341BM	R343AMC*	R343BM	R351AS	R351BS	R351CS
R351DM	R351EM	R353AS	R353BS	R353CS	R353DM	R354AM	R354BM
R364AM	R364BM	R370AMW*	R374AM	R374BM	R378AM	R378BM	R378CS
R380AM	R380BM	R380CM	R380DS	R382AM	R382BM	R384AM	R384BM

Address 10 – 1F

BITS 1	BITS 2	BITS 3	BITS 4	BITS 5	BITS 6	BITS 7	BITS 8
R255AMW*	R257AM	R257CMC*	R267AMC*	R277AMW*	R283AM	R283BM	R283CM
R284AMC*	R285AM	R285BM	R287AMW*	R289AM	R289BM	R289CM	R289DM
R290AMC*	R290BM	R290CM*	R290DM	R291AM	R291BM	R291CM	R291DM

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BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R292AM	R292BMC*	R292CM	R292DM	R293AM	R293BM	R294AM	R294BMC*
R304AM	R304BM	R306AM	R306BM	R308AM	R308BM	R308CM	R310AM
R310BM	R310CM	R310DM	R405AM	R405BM	R409AM	R409BM	R411AM
R411BM	R423AMW*	R442AS	R442BM	R442CM	R444AS	R444BM	R446AMW*
R450AM	R450BS	R241AM	R241BM	R248AM	R248BM	R248CS	R249AM
R249BM	R250AM*	R250BM	R251AM	R251BM	R251CM	R253AM	R253BMW*
R253CM	R259AM	R259BM	R259CM	R261AM	R261BM	R261CM	R262AM
R262BM	R264AM	R264BM	R269AM	R269BM	R269CM	R270AM	R270BM
R270CM	R270DM	R273AM*	R273BM	R275AM	R275BM	R276AM	R276BM
R276CM	R276DM	R278AM	R278BM	R278CM	R278DM	R700BM	R700AM
R697M	R701AM	-	R703AM	-	R704AM	R704BM	R901AM
R705M	R706AM	R706BS	R707AM	R707BMC*	R707CS	R708AS	R708BM
R708CS	R712M	R713M	R715M	R716AS	R716BMC*	R716CM	R717AM

Address 20 - 2F

BIT1	BIT2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R717BS	S223	S226	S229	S231	S235	S240	S242
S244	S245	S309	S311	S313	S315	S317	S319
S326	S328	S330	S332	S334	S336	S338	S340
S355	S357	S359	S361	S367	S369	S386	S392
S394	S396	S398	S400	S408	S416	S424	S427
S429	S431	S433	S435	S437	S439	S441	S443
S458	S460	S464	S466	S468	S470	S472	S474
S476	S478	S480	S951	S953	S329	S335	S337
S341	S343	S345	S349	S351	S352	S353	S354
S360	S362	S364	S366	S368	S370	S374	S376
S378	S380	S382	S384	S255	S256	S257	S266
S267	S268	S277	S279	S283	S284	S285	S286
S287	S288	S289	S290	S291	S292	S293	S294
S295	S296	S299	S301	S304	S306	S308	S310
S399	S401	S405	S409	S411	S413	S423	S432
S438	S442	S444	S446	S450	S454	S234	S237

Address 30 – 38

BIT1	BIT2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
S239	S241	S248	S249	S250	S251	S252	S253
S254	S258	S259	S261	S262	S263	S264	S265
S269	S270	S273	S274	S275	S276	S278	S281
L361TRS	L431TRS	L439TRS	L458TRS	L460TRS	L464TRS	L468TRS	L5114TRS
L5078TRS	L5080TRS	L5082TRS	L5084TRS	L5086TRS	L378TRS	L366TRS	L380TRS
L368TRS	L382TRS	L384TRS	L362TRS	L951TRS	L953TRS	R1285AMW	R1285BM
R1289BM	R1289CM	R1420BM	R1420CM	R1421	R1423	S1285	S1289
S1420	S1421	S1423	R387AM	R387BM	R420AM	R422AM	R936AM
S387	S420	S422	S936	-	-	-	-

The following table details the meshed routes (indicated by a * in the above tables). The meshed route is set when any of the individual route items are set.

Meshed Route Name	Individual Route Items constituting the Meshed Route			
R240CM	R240C1M	R240C2M		
R355AMW	R355AM	R355AW		
R386AMW	R386AM	R386AW		
R427AMW	R427AM	R427AW		
R468AMC	R468AM	R468AC		
R468BMC	R468BM	R468BC		

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Meshed Route Name	Individual Route Items constituting the Meshed Route			
R470AMW	R470AM	R470AW		
R341AMC	R341AM	R341AC		
R343AMC	R343AM	R343AC		
R370AMW	R370AM	R370AW		
R255AMW	R255AM	R255AW		
R257CMC	R257CM	R257CC		
R267AMC	R267AM	R267AC		
R277AMW	R277AM	R277AW		
R284AMC	R284AM	R284AC		
R287AMW	R287AM	R287AW		
R290AMC	R290AM	R290AC		
R290CM	R290C1M	R290C2M		
R292BMC	R292B1M	R292B1C	R292B2M	R292B2C
R294BMC	R294BM	R294BC		
R423AMW	R423AM	R423AW		
R446AMW	R446AM	R446AW		
R250AM	R250A1M	R250A2M		
R253BMW	R253BM	R253BW		
R273AM	R273A1M	R273A2M		
R707BMC	R707BM	R707BC		
R716BMC	R716BM	R716BC		

6.5 Link Status

Changes in the status of this remote link are sent to DIS1, DIS2 and DIS3.

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7 LINK TO SOUTH TOTTENHAM SB TD

7.1 Overview

This remote system link operates from ECS port 5. It is the link to South Tottenham SB TD with TD type initialisation.

7.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	5	Baud Rate	1200
Physical Name	P5	Time-Out Period (secs)	2
Area	STOT	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

7.3 Berths

Changes in the contents of the following berths will be transmitted to South Tottenham SB TD:

0903 ST26 UTHB

The following berth undergoes a TD name translation before being transmitted to South Tottenham SB TD. This is listed below with the value on the right being the transmitted name and the value on the left being the name used within the IECC:

{ST26 STAP}

Changes in the contents of the following berths will be received from South Tottenham SB TD:

0903 APST RAST ST12 ST13 ST16 ST18 ST19 ST20 ST21
ST22 ST23 ST24 ST25 ST27 ST29

7.4 Link Status

Changes in the status of this remote link are sent to DIS3.

Version AJ2	Drg No A02LIV-IECB-Q-ECS-001	STRATFORD IECC EXTERNAL COMMUNICATIONS SUBSYSTEM DATA SPECIFICATION
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8 LINK TO NORTH LONDON RAILWAY IECC C

8.1 Overview

This remote system link operates from ECS port 6. It is the link to North London Railway IECC C with TD type initialisation.

8.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	6	Baud Rate	9600
Physical Name	P6	Time-Out Period (secs)	2
Area	NLRC	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

8.3 Berths

Changes in the contents of the following berths will be transmitted to North London Railway IECC C:

0237	0239	0241	0249	0251	0258	0269	0270	0274	0276
0278	0290	0292	1294	1296	1424	ADCR	AUCC	AUHM	B292
H704	S700	S703	S704	S706	S708	S712			

The following berth undergoes a TD name translation before being transmitted to North London Railway IECC C. This is listed below with the value on the right being the transmitted name and the value on the left being the name used within the IECC:

{0237	S237}	{0239	S239}	{0241	S241}	{0249	S249}
{0251	S251}	{0258	S258}	{0269	S269}	{0270	S270}
{0274	S274}	{0276	S276}	{0278	S278}	{0290	S290}
{0292	S292}	{1294	S294}	{1296	S296}	{1424	N424}
{B292	Z292}						

Changes in the contents of the following berths will be received from North London Railway IECC C:

0258	0269	1261	1262	1264	1265	1268	1269	1270	1271
1272	1273	1274	1275	1276	1277	1278	1279	1280	1281
1282	1283	1284	1285	1286	1287	1288	1289	1290	1292
1294	1296	1401	1406	1420	1421	1422	1423	1424	ADHM
CCAP	CRAP	F402	F404	H704	S703				

8.4 Signalling Items

Changes on the status of the following signalling items will be transmitted by the ECS to North London Railway IECC C:

Address 00 - 03

BITS 1	BITS 2	BITS 3	BITS 4	BITS 5	BITS 6	BITS 7	BITS 8
R249AM	R251AM	R270CM	R270DM	R276CM	R276DM	R278CM	R278DM
S237	S239	S241	S249	S251	S270	S274	S276
S278	S290	S292	-	SS700	R704BM	SS704	SS706
SS708	SS712	-	-	-	-	-	-

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Changes on the status of the following signalling items will be received by the ECS from North London Railway IECC C:

Address 00 - 01

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R1285AMW S1285	R1285BM S1289	R1289BM S1420	R1289CM S1421	R1420BM S1423	R1420CM -	R1421 -	R1423 -

The above received signalling items are owned by Stratford IECC B and set to zero on initialisation.

8.5 Link Status

Changes in the status of this remote link are sent to DIS1 and DIS3.

Version AJ2	Drg No A02LIV-IECB-Q-ECS-001	STRATFORD IECC EXTERNAL COMMUNICATIONS SUBSYSTEM DATA SPECIFICATION
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9 LINK TO WEST ANGLIA GREAT NORTHERN IECC D

9.1 Overview

This remote system link operates from ECS port 7. It is the link to West Anglia Great Northern IECC D with TD type initialisation.

9.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	7	Baud Rate	1200
Physical Name	P7	Time-Out Period (secs)	2
Area	WAGN	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

9.3 Berths

Changes in the contents of the following berths will be transmitted to West Anglia Great Northern IECC D:

1003 S697 S701 S703 S705 S707 S713 S715 S717 S901

Changes in the contents of the following berths will be received from West Anglia Great Northern IECC D:

1004 1005 1007 1009 1010 1011 1012 1013 1014 1015
1016 1017 1018 RDUT S718 ST17

9.4 Link Status

Changes in the status of this remote link are sent to DIS1 and DIS3.

Version AJ2	Drg No A02LIV-IECB-Q-ECS-001	STRATFORD IECC EXTERNAL COMMUNICATIONS SUBSYSTEM DATA SPECIFICATION
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10 LINK TO ILFORD CARRIAGE SIDINGS FRINGE BOX

10.1 Overview

This remote system link operates from ECS port 8. It is the link to Ilford Carriage Sidings Fringe Box with TD type initialisation.

10.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	8	Baud Rate	1200
Physical Name	P8	Time-Out Period (secs)	2
Area	ILFB	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

10.3 Berths

Changes in the contents of the following berths will be transmitted to Ilford Carriage Sidings Fringe Box:

0345	0347	0349	0351	0353	0355	0357	0359	0361	0362
0363	0364	0365	0367	0368	0369	0370	0371	0372	0374
0376	0378	0380	0382	0384	0386	0388	0390	0392	0394
0396	0398	0400	0951	0953	5088	ICIN	IFAC	IFAL	

Changes in the contents of the following berths will be received from Ilford Carriage Sidings Fringe Box:

Q361 Q378 Q380 Q382 Q384

The following berth undergoes a TD name translation when received from Ilford Carriage Sidings Fringe Box. This is listed below with the value on the right being the received name and the value on the left being the name used within the IECC:

{Q361 0361}	{Q378 0378}	{Q380 0380}	{Q382 0382}
{Q384 0384}			

10.4 Signalling Items

Changes on the status of the following signalling items will be transmitted by the ECS to Ilford Carriage Sidings Fringe Box

Address 00 - 03

BITS 1	BITS 2	BITS 3	BITS 4	BITS 5	BITS 6	BITS 7	BITS 8
REL410X*	L378TRS	L380TRS	L382TRS	L384TRS	REL410Y*	L361TRS	-
R353AS	R353BS	R353CS	R351AS	R351BS	R351CS	R392BS	R5088AS
R378AM	R378BM	R378CS	R380AM	R380BM	R380CM	R380DS	R392CS
R382AM	R382BM	R384AM	R384BM	R361AS	R361BM	R361CM	-

The following table details the meshed items (indicated by a * in the above tables). The meshed item is set when the individual items are set as defined in the logical sequence.

Meshed Item Name	Individual Items Logical Sequence
REL410X	((L351COMS OR L353COMS) OR (NOT(R4101) AND L4101STK) OR (NOT(R4102) AND L4102STK) OR (NOT(R4103) AND L4103STK))

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Meshed Item Name	Individual Items Logical Sequence
REL410Y	((L392COMS OR L5088COS) OR (L4105STK AND (NOT R4105)) OR (L4106STK AND (NOT R4106)))

10.5 Link Status

Changes in the status of this remote link are sent to DIS2.

Version AJ2	Drg No A02LIV-IECB-Q-ECS-001	STRATFORD IECC EXTERNAL COMMUNICATIONS SUBSYSTEM DATA SPECIFICATION
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11 LINK TO SMART LINK 1

11.1 Overview

This remote system link operates from ECS port 9. It is the link to SMART Link 1 with **ETB** type initialisation.

11.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	9	Baud Rate	9600
Physical Name	P9	Time-Out Period (secs)	2
Area	SMT1	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

11.3 Berths

Changes in the contents of the following berths will be transmitted to SMART Link 1:

/ DIS1 Berths

0220	0221	0222	0223	0224	0225	0226	0227	0228	0229
0230	0231	0234	0235	0237	0239	0240	0241	0242	0244
0245	0248	0249	0250	0251	0252	0253	0254	0255	0256
0257	0258	0259	0261	0262	0263	0264	0265	0266	0267
0268	0269	0270	0273	0274	0275	0276	0277	0278	0279
0281	0283	0284	0285	0286	0287	0288	0289	0290	0291
0292	0293	0294	0296	0297	0298	0299	0300	0301	0303
0304	0305	0306	0307	0308	0309	0310	0311	0313	0314
0315	0316	0317	0319	0320	0321	0323	0324	0325	0326
0328	0330	0332	0334	0336	0338	0340	1294	1296	5057
5065	5070	B292	LSBY		U518				

/ DIS2 Berths

0327	0329	0331	0333	0335	0337	0339	0341	0343	0245
0346	0347	0349	0350	0351	0352	0353	0354	0355	0356
0357	0358	0359	0360	0361	0362	0363	0364	0365	0367
0368	0369	0370	0371	0372	0373	0374	0375	0376	0377
0378	0379	0380	0381	0382	0383	0384	0385	0386	0387
0388	0389	0390	0391	0392	0393	0394	0395	0396	0397
0398	0399	0400	0401	0402	0403	0404	0405	0406	0407
0408	0409	0410	0411	0412	0413	0414	0415	0416	0417
0418	0419	0420	0421	0422	0423	0424	0425	0426	0427
0428	0429	0430	0431	0432	0433	0435	0436	0438	0439
0440	0441	0442	0443	0444	0445	0446	0447	0448	0449
0450	0452	0454	0456	0458	0460	0462	0464	0468	0470
0472	0474	0476	0478	0480	0951	0953	5078	5080	5082
5084	5086	5087	5088	5096	5099	5100	5101	5102	5104
5105	5107	5109	5111	5113	5114	5116	5125	A366	A936
B366	B936		ICIN	R366	R936	RAS1	RAS2	RAS3	RAS4
RAS5	RCHS	RGP1	RGP2	RGP3	RGP4	RGP5	RGP6	RGPC	RGPL
RIFC	RIFL	ROM1	RRED	RROM	XROM	UMIN			

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/ DIS3 Berths

0032	0604	0903	0904	0906	0907	0909	0910	0911	0912
0913	0915	0918	0920	0921	0924	1003	1424	S697	S700
S701	S703	S704	S705	S706	S707	S708	S712	S713	S715
S716	S717	S718	S767	S770	S772	S901	S906	ST26	U601
U604	U902	U906	UTHB						

All the above berths shall be transmitted to SMART Link 1 when the link is initialised i.e. all the above berths should be contained within the SENDSTART section.

The following berths undergo a TD name translation before being transmitted to SMART Link 1. These are listed below with the value on the right being the transmitted name and the value on the left being the name used within the IECC:

{ST26 STAP} {B292 1292}

Changes in the contents of the following berth will be received from SMART Link 1:

None

11.4 Signalling Items

Note: The total number of required berths + S-Class items on this link and the Interlinks exceeds the IECC limit of 1024. Therefore, S-Class items have been rationalised in order to bring the number back down below 1024.

Changes on the status of the signalling items known to the IECC will be transmitted to SMART Link 1 as S-Class messages:

Address 00 - 0F

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R226AS	R226BM	R229AM	R229BM	R229CM	R231AM	R231BM	R235AM
R235BM	R240AM	R240BM	R240CM*	R242AM	R242BM	R242CM	R244AM
R244BM	R309AM	R309BM	R309CM	R311AM	R311BM	R313AM	R313BM
R317AM	R317BM	R326AM	R326BM	R328AM	R328BM	R328CM	R330AM
R330BM	R330CM	R330DM	R903AM	R904AM	R907AM	R907BM	R909AM
R910AM	R911AM	R912AM	R912BM	R913AM	R915AM	R918AM	R918BM
R920AM	R920BM	R355AMW*	R357AM	R357BM	R361AS	R361BM	R361CM
R386AMW*	R392AM	R392BS	R392CS	R400AM	R400BM	R416AS	R416BM
R427AMW*	R431AS	R431BM	R431CS	R433AM	R433BM	R435AM	R435BM
R437AM	R437BM	R437CS	R439AS	R439BM	R439CM	R464AM	R464BM
R464CS	R466AS	R466BM	R468AMC*	R468BMC*	R470AMW*	R474AM	R474BM
R476AM	R476BM	R329AM	R329BM	R337AS	R337BS	R337CS	R337DS
R337ES	R341AMC*	R341BM	R343AMC*	R343BM	R351AS	R351BS	R351CS
R351DM	R351EM	R353AS	R353BS	R353CS	R353DM	R354AM	R354BM
R364AM	R364BM	R370AMW*	R374AM	R374BM	R378AM	R378BM	R378CS
R380AM	R380BM	R380CM	R380DS	R382AM	R382BM	R384AM	R384BM

Address 10 – 1F

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R255AMW*	R257AM	R257CMC*	R267AMC*	R277AMW*	R283AM	R283BM	R283CM
R284AMC*	R285AM	R285BM	R287AMW*	R289AM	R289BM	R289CM	R289DM
R290AMC*	R290BM	R290CM*	R290DM	R291AM	R291BM	R291CM	R291DM
R292AM	R292BMC*	R292CM	R292DM	R293AM	R293BM	R294AM	R294BMC*
R304AM	R304BM	R306AM	R306BM	R308AM	R308BM	R308CM	R310AM
R310BM	R310CM	R310DM	R405AM	R405BM	R409AM	R409BM	R411AM
R411BM	R423AMW*	R442AS	R442BM	R442CM	R444AS	R444BM	R446AMW*

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BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R450AM	R450BS	R241AM	R241BM	R248AM	R248BM	R248CS	R249AM
R249BM	R250AM*	R250BM	R251AM	R251BM	R251CM	R253AM	R253BMW*
R253CM	R259AM	R259BM	R259CM	R261AM	R261BM	R261CM	R262AM
R262BM	R264AM	R264BM	R269AM	R269BM	R269CM	R270AM	R270BM
R270CM	R270DM	R273AM*	R273BM	R275AM	R275BM	R276AM	R276BM
R276CM	R276DM	R278AM	R278BM	R278CM	R278DM	R700BM	R700AM
R697M	R701AM	-	R703AM	-	R704AM	R704BM	R901AM
R705M	R706AM	R706BS	R707AM	R707BMC*	R707CS	R708AS	R708BM
R708CS	R712M	R713M	R715M	R716AS	R716BMC*	R716CM	R717AM

Address 20 - 2F

BIT1	BIT2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R717BS	S223	S226	S229	S231	S235	S240	S242
S244	S245	S309	S311	S313	S315	S317	S319
S326	S328	S330	S332	S334	S336	S338	S340
S355	S357	S359	S361	S367	S369	S386	S392
S394	S396	S398	S400	S408	S416	S424	S427
S429	S431	S433	S435	S437	S439	S441	S443
S458	S460	S464	S466	S468	S470	S472	S474
S476	S478	S480	S951	S953	S329	S335	S337
S341	S343	S345	S349	S351	S352	S353	S354
S360	S362	S364	S366	S368	S370	S374	S376
S378	S380	S382	S384	S255	S256	S257	S266
S267	S268	S277	S279	S283	S284	S285	S286
S287	S288	S289	S290	S291	S292	S293	S294
S295	S296	S299	S301	S304	S306	S308	S310
S399	S401	S405	S409	S411	S413	S423	S432
S438	S442	S444	S446	S450	S454	S234	S237

Address 30 - 36

BIT1	BIT2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
S239	S241	S248	S249	S250	S251	S252	S253
S254	S258	S259	S261	S262	S263	S264	S265
S269	S270	S273	S274	S275	S276	S278	S281
L361TRS	L431TRS	L439TRS	L458TRS	L460TRS	L464TRS	L468TRS	L5114TRS
L5078TRS	L5080TRS	L5082TRS	L5084TRS	L5086TRS	L378TRS	L366TRS	L380TRS
L368TRS	L382TRS	L384TRS	L362TRS	L951TRS	L953TRS	R387AM	R387BM
R420AM	R422AM	R936AM	S387	S420	S422	S936	-

The following table details the meshed routes (indicated by a * in the above tables). The meshed route is set when any of the individual route items are set.

Meshed Route Name	Individual Route Items constituting the Meshed Route			
R240CM	R240C1M	R240C2M		
R355AMW	R355AM	R355AW		
R386AMW	R386AM	R386AW		
R427AMW	R427AM	R427AW		
R468AMC	R468AM	R468AC		
R468BMC	R468BM	R468BC		
R470AMW	R470AM	R470AW		
R341AMC	R341AM	R341AC		
R343AMC	R343AM	R343AC		
R370AMW	R370AM	R370AW		
R255AMW	R255AM	R255AW		
R257CMC	R257CM	R257CC		

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Meshed Route Name	Individual Route Items constituting the Meshed Route			
R267AMC	R267AM	R267AC		
R277AMW	R277AM	R277AW		
R284AMC	R284AM	R284AC		
R287AMW	R287AM	R287AW		
R290AMC	R290AM	R290AC		
R290CM	R290C1M	R290C2M		
R292BMC	R292B1M	R292B1C	R292B2M	R292B2C
R294BMC	R294BM	R294BC		
R423AMW	R423AM	R423AW		
R446AMW	R446AM	R446AW		
R250AM	R250A1M	R250A2M		
R253BMW	R253BM	R253BW		
R273AM	R273A1M	R273A2M		
R707BMC	R707BM	R707BC		
R716BMC	R716BM	R716BC		

11.5 Link Status

Changes in the status of this remote link are sent to DIS1, DIS2 and DIS3.

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12 LINK TO SHENFIELD IECC C

12.1 Overview

This remote system link operates from ECS port 10. It is the link to Shenfield IECC C with TD type initialisation.

12.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	10	Baud Rate	1200
Physical Name	PA	Time-Out Period (secs)	2
Area	SH1E	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

12.3 Berths

Changes in the contents of the following berths will be transmitted to Shenfield IECC C:

0415	0417	0419	0421	0423	0425	0427	0429	0431	0433
0435	0437	0439	0441	0442	0443	0444	0445	0446	0447
0448	0449	0452	0454	0456	0458	0460	0462	0464	0466
0470	0472	0474	0476						

Changes in the contents of the following berths will be received from Shenfield IECC C:

0451	0453	0455	0457	0459	0461	0463	0465	0467	0469
0471	0473	0475	0477	0478	0479	0480	0481	0482	0483
0484	0485	0486	0487	0488	0489	0490	0491	0492	0493
0494	0495	0496	0497	0498	0499	0500	0501	0502	0503
0504	0506	0508	0510	0512	0514	0516	0518	0522	0524

12.4 Link Status

Changes in the status of this remote link are sent to DIS2.

Version AJ2	Drg No A02LIV-IECB-Q-ECS-001	STRATFORD IECC EXTERNAL COMMUNICATIONS SUBSYSTEM DATA SPECIFICATION
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13 LINK TO LIVERPOOL STREET CIS

13.1 Overview

This remote system link operates from ECS port 11. It is the link to Liverpool Street CIS with TD type initialisation.

13.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	11	Baud Rate	1200
Physical Name	PB	Time-Out Period (secs)	2
Area	LCIS	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

13.3 Berths

Changes in the contents of the following berths will be transmitted to Liverpool Street CIS:

/ DIS1 Berths

0220	0221	0222	0223	0224	0225	0226	0227	0228	0229
0230	0231	0234	0235	0237	0239	0240	0241	0242	0244
0245	0248	0249	0250	0251	0252	0253	0254	0255	0256
0257	0258	0259	0261	0262	0263	0264	0265	0266	0267
0268	0269	0270	0273	0274	0275	0276	0277	0278	0279
0281	0283	0284	0285	0286	0287	0288	0289	0290	0291
0292	0293	0294	0295	0296	0297	0298	0299	0300	0301
0303	0304	0305	0306	0307	0308	0309	0310	0311	0313
0314	0315	0316	0317	0319	0320	0321	0323	0324	0325
0326	0328	0330	0332	0334	0336	0338	0340	0909	0911
1294	1296	5057	5065	5070	B292	LSBY	LSCS	LSDC	LSDE
LSDM	LSDS	LSUE	LSUM	LSUR	U518				

/ DIS2 Berths

0327	0329	0331	0333	0335	0337	0339	0341	0343	0345
0346	0347	0349	0350	0351	0352	0353	0354	0355	0356
0357	0358	0359	0360	0361	0362	0363	0364	0365	0367
0368	0369	0370	0371	0372	0373	0374	0375	0376	0377
0378	0379	0380	0381	0382	0383	0384	0385	0386	0387
0388	0389	0390	0391	0392	0393	0394	0395	0396	0397
0398	0399	0400	0401	0402	0403	0404	0405	0406	0407
0408	0409	0410	0411	0412	0413	0414	0415	0416	0417
0418	0419	0420	0421	0422	0423	0424	0425	0426	0427
0428	0429	0430	0431	0432	0433	0435	0436	0437	0438
0439	0440	0441	0442	0443	0444	0445	0446	0447	0448
0449	0450	0452	0454	0456	0458	0460	0462	0464	0466
0468	0470	0472	0474	0476	0478	0480	0951	0953	5078
5080	5082	5084	5086	5087	5088	5096	5099	5100	5101
5102	5104	5105	5107	5109	5111	5113	5114	5116	5118
5121	5125	A366	A936	B366	B936		ICIN	R366	R936
RAS1	RAS2	RAS3	RAS4	RAS5	RCHS	RGP1	RGP2	RGP3	RGP4

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RGP5 XROM	RGP6	RGPC	RGPL	RIFC	RIFL	ROM1	RRED	RROM	UMIN
/ DIS3 Berths									
	0903	0904		0907	0910	0912	0913	0915	0918
0920	0921	0924	1424	LSBD	LSDT	LSDU	LSSJ	LSST	LUHM
S697	S700	S701	S703	S704	S705	S706	S707	S708	S712
S713	S715	S716	S717	S718	S767	S770	S772	S901	S906
ST26	U601	U604	U902	U906	UTHB				

The following berth undergoes a TD name translation before being transmitted to Liverpool Street CIS. This is listed below with the value on the right being the transmitted name and the value on the left being the name used within the IECC:

{ST26 STAP} {B292 1292}

Changes in the contents of the following berths will be received from Liverpool Street CIS:

/DIS1 Berths

L054	L055	L056	L057	L058	L059	L060	L061	L063	L064
L065	L066	L068	L070	L071	L072	L073	L074	L075	L080
L081	L082	L083	L084	L085	L086	L090	L091	L092	L093
L094	L095	L200	L201	L202	L203	L210	L212		

/DIS3 Berths

S901

The following berth undergoes a TD name translation when received from Liverpool Street CIS. This is listed below with the value on the right being the received name and the value on the left being the name used within the IECC:

{L054	0054}	{L055	0055}	{L056	0056}	{L057	0057}
{L058	0058}	{L059	0059}	{L060	0060}	{L061	0061}
{L063	0063}	{L064	0064}	{L065	0065}	{L066	0066}
{L068	0068}	{L070	0070}	{L071	0071}	{L072	0072}
{L073	0073}	{L074	0074}	{L075	0075}	{L080	0080}
{L081	0081}	{L082	0082}	{L083	0083}	{L084	0084}
{L085	0085}	{L086	0086}	{L090	0090}	{L091	0091}
{L092	0092}	{L093	0093}	{L094	0094}	{L095	0095}
{L200	0200}	{L201	0201}	{L202	0202}	{L203	0203}
{L210	0210}	{L212	0212}				

13.4 Link Status

Changes in the status of this remote link are sent to DIS1, DIS2 and DIS3.

Version AJ2	Drg No A02LIV-IECB-Q-ECS-001	STRATFORD IECC EXTERNAL COMMUNICATIONS SUBSYSTEM DATA SPECIFICATION
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14 INTER-UNIT LINK (2)

14.1 Overview

This ECS-ECS remote system link operates from ECS port 12. It is the link between the ECS Master and Standby Units and uses **TD** type initialisation.

14.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	12	Baud Rate	19200
Physical Name	PC	Time-Out Period (secs)	1
Area	ECSL	Message Retry Count	8
Protocol	BR1810	Message Retry Field Flag	Set

14.3 Berths

Changes in the contents of **ALL** berths known to the IECC are transmitted from the Master ECS computer unit to the Standby ECS computer (these berths are therefore shown in both the **SEND** and **RECEIVE** sections in the ECS data).

14.4 Signalling Items

Note: The total number of required berths + S-Class items on this link and the Interlinks exceeds the IECC limit of 1024. Therefore, S-Class items have been rationalised in order to bring the number back down below 1024.

Changes on the status of the following signalling items will be transmitted by the Master ECS unit to the Standby ECS unit and vice-versa.

Address 00 - 0F

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R226AS	R226BM	R229AM	R229BM	R229CM	R231AM	R231BM	R235AM
R235BM	R240AM	R240BM	R240CM*	R242AM	R242BM	R242CM	R244AM
R244BM	R309AM	R309BM	R309CM	R311AM	R311BM	R313AM	R313BM
R317AM	R317BM	R326AM	R326BM	R328AM	R328BM	R328CM	R330AM
R330BM	R330CM	R330DM	R903AM	R904AM	R907AM	R907BM	R909AM
R910AM	R911AM	R912AM	R912BM	R913AM	R915AM	R918AM	R918BM
R920AM	R920BM	R355AMW*	R357AM	R357BM	R361AS	R361BM	R361CM
R386AMW*	R392AM	R392BS	R392CS	R400AM	R400BM	R416AS	R416BM
R427AMW*	R431AS	R431BM	R431CS	R433AM	R433BM	R435AM	R435BM
R437AM	R437BM	R437CS	R439AS	R439BM	R439CM	R464AM	R464BM
R464CS	R466AS	R466BM	R468AMC*	R468BMC*	R470AMW*	R474AM	R474BM
R476AM	R476BM	R329AM	R329BM	R337AS	R337BS	R337CS	R337DS
R337ES	R341AMC*	R341BM	R343AMC*	R343BM	R351AS	R351BS	R351CS
R351DM	R351EM	R353AS	R353BS	R353CS	R353DM	R354AM	R354BM
R364AM	R364BM	R370AMW*	R374AM	R374BM	R378AM	R378BM	R378CS
R380AM	R380BM	R380CM	R380DS	R382AM	R382BM	R384AM	R384BM

Address 10 – 1F

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R255AMW*	R257AM	R257CMC*	R267AMC*	R277AMW*	R283AM	R283BM	R283CM
R284AMC*	R285AM	R285BM	R287AMW*	R289AM	R289BM	R289CM	R289DM
R290AMC*	R290BM	R290CM*	R290DM	R291AM	R291BM	R291CM	R291DM

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BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R292AM	R292BMC*	R292CM	R292DM	R293AM	R293BM	R294AM	R294BMC*
R304AM	R304BM	R306AM	R306BM	R308AM	R308BM	R308CM	R310AM
R310BM	R310CM	R310DM	R405AM	R405BM	R409AM	R409BM	R411AM
R411BM	R423AMW*	R442AS	R442BM	R442CM	R444AS	R444BM	R446AMW*
R450AM	R450BS	R241AM	R241BM	R248AM	R248BM	R248CS	R249AM
R249BM	R250AM*	R250BM	R251AM	R251BM	R251CM	R253AM	R253BMW*
R253CM	R259AM	R259BM	R259CM	R261AM	R261BM	R261CM	R262AM
R262BM	R264AM	R264BM	R269AM	R269BM	R269CM	R270AM	R270BM
R270CM	R270DM	R273AM*	R273BM	R275AM	R275BM	R276AM	R276BM
R276CM	R276DM	R278AM	R278BM	R278CM	R278DM	R700BM	R700AM
R697M	R701AM	-	R703AM	-	R704AM	R704BM	R901AM
R705M	R706AM	R706BS	R707AM	R707BMC*	R707CS	R708AS	R708BM
R708CS	R712M	R713M	R715M	R716AS	R716BMC*	R716CM	R717AM

Address 20 - 2F

BIT1	BIT2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R717BS	S223	S226	S229	S231	S235	S240	S242
S244	S245	S309	S311	S313	S315	S317	S319
S326	S328	S330	S332	S334	S336	S338	S340
S355	S357	S359	S361	S367	S369	S386	S392
S394	S396	S398	S400	S408	S416	S424	S427
S429	S431	S433	S435	S437	S439	S441	S443
S458	S460	S464	S466	S468	S470	S472	S474
S476	S478	S480	S951	S953	S329	S335	S337
S341	S343	S345	S349	S351	S352	S353	S354
S360	S362	S364	S366	S368	S370	S374	S376
S378	S380	S382	S384	S255	S256	S257	S266
S267	S268	S277	S279	S283	S284	S285	S286
S287	S288	S289	S290	S291	S292	S293	S294
S295	S296	S299	S301	S304	S306	S308	S310
S399	S401	S405	S409	S411	S413	S423	S432
S438	S442	S444	S446	S450	S454	S234	S237

Address 30 - 38

BIT1	BIT2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
S239	S241	S248	S249	S250	S251	S252	S253
S254	S258	S259	S261	S262	S263	S264	S265
S269	S270	S273	S274	S275	S276	S278	S281
L361TRS	L431TRS	L439TRS	L458TRS	L460TRS	L464TRS	L468TRS	L5114TRS
L5078TRS	L5080TRS	L5082TRS	L5084TRS	L5086TRS	L378TRS	L366TRS	L380TRS
L368TRS	L382TRS	L384TRS	L362TRS	L951TRS	L953TRS	R1285AMW	R1285BM
R1289BM	R1289CM	R1420BM	R1420CM	R1421	R1423	S1285	S1289
S1420	S1421	S1423	R387AM	R387BM	R420AM	R422AM	R936AM
S387	S420	S422	S936	-	-	-	-

The following table details the meshed routes (indicated by a * in the above tables). The meshed route is set when any of the individual route items are set.

Meshed Route Name	Individual Route Items constituting the Meshed Route			
R240CM	R240C1M	R240C2M		
R355AMW	R355AM	R355AW		
R386AMW	R386AM	R386AW		
R427AMW	R427AM	R427AW		
R468AMC	R468AM	R468AC		
R468BMC	R468BM	R468BC		

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Meshed Route Name	Individual Route Items constituting the Meshed Route			
R470AMW	R470AM	R470AW		
R341AMC	R341AM	R341AC		
R343AMC	R343AM	R343AC		
R370AMW	R370AM	R370AW		
R255AMW	R255AM	R255AW		
R257CMC	R257CM	R257CC		
R267AMC	R267AM	R267AC		
R277AMW	R277AM	R277AW		
R284AMC	R284AM	R284AC		
R287AMW	R287AM	R287AW		
R290AMC	R290AM	R290AC		
R290CM	R290C1M	R290C2M		
R292BMC	R292B1M	R292B1C	R292B2M	R292B2C
R294BMC	R294BM	R294BC		
R423AMW	R423AM	R423AW		
R446AMW	R446AM	R446AW		
R250AM	R250A1M	R250A2M		
R253BMW	R253BM	R253BW		
R273AM	R273A1M	R273A2M		
R707BMC	R707BM	R707BC		
R716BMC	R716BM	R716BC		

14.5 Link Status

Changes in the status of this remote link are sent to DIS1, DIS2 and DIS3.

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15 LINK TO GIDEA PARK CARRIAGE SIDINGS FRINGE BOX

15.1 Overview

This remote system link operates from ECS port 13. It is the link to Gidea Park Carriage Sidings Fringe Box with **TD** type initialisation.

15.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	13	Baud Rate	1200
Physical Name	PD	Time-Out Period (secs)	2
Area	GPFB	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

15.3 Berths

Changes in the contents of the following berths will be transmitted to Gidea Park Carriage Sidings Fringe Box:

0423	0427	0429	0431	0433	0435	0437	0439	0441	0443
0445	0456	0458	0460	0462	0464	0466	0468	0470	0472
0474	0476	0478	0480	5113	5114	5116	5118	5121	5125
GFAC	GFAL								

Changes in the contents of the following berths will be received from Gidea Park Carriage Sidings Fringe Box:

Q431 Q439 Q458 Q464 Q468

The following berth undergoes a TD name translation when received from Gidea Park Carriage Sidings Fringe Box. This is listed below with the value on the right being the received name and the value on the left being the name used within the IECC:

{Q431 0431}	{Q439 0439}	{Q458 0458}	{Q464 0464}
{Q468 0468}			

15.4 Signalling Items

Changes on the status of the following signalling items will be transmitted by the ECS to Gidea Park Carriage Sidings Fringe Box

Address 00 - 03

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
REL4108*	L464TRS	REL4109*	L439TRS	R4110	L5114TRS	L468TRS	-
R431AS	R431CS	R5113AS	R5113C1S	R5113C2S	R5116BS	R5125AS	-
R464AM	R464BM	R464CS	R468AM	R468BM	R468AC	R468BC	-
R439AS	R439BM	R439CM	R5114AS	R5114BS	-	-	-

The following table details the meshed items (indicated by a * in the above tables). The meshed item is set when the individual items are set as defined in the logical sequence.

Meshed Item Name	Individual Items Logical Sequence
REL4108	(L4108STK AND L4108RER AND (NOT R4108))
REL4109	(L4109STK AND R4109RER AND (NOT R4109))

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15.5 Link Status

Changes in the status of this remote link are sent to DIS2.

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16 LINK TO ORIENT WAY SIDINGS TD

16.1 Overview

This remote system link operates from ECS port 14. It is the link to Orient Way Sidings TD with TD type initialisation.

16.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	14	Baud Rate	1200
Physical Name	PE	Time-Out Period (secs)	2
Area	OWCS	Message Retry Count	3
Protocol	BR1810	Message Retry Field Flag	Set

16.3 Berths

Changes in the contents of the following berths will be transmitted to Orient Way Sidings TD:

0274	0276	1003	1424	APP3	APP4	APUT	LSBD	LSDT	LSSJ
S697	S700	S701	S703	S704	S705	S706	S707	S708	S712
S713	S715	S716	S717	S718	S770	S901	S906		

The following berth undergoes a TD name translation before being transmitted to Orient Way Sidings TD. This is listed below with the value on the right being the transmitted name and the value on the left being the name used within the IECC:

{0274 L274} {0276 L276}

Changes in the contents of the following berths will be received from Orient Way Sidings TD:

0032 S708 S717

The following berth undergoes a TD name translation when received from Orient Way Sidings TD. This is listed below with the value on the right being the received name and the value on the left being the name used within the IECC:

{0032 OW32}

16.4 Link Status

Changes in the status of this remote link are sent to DIS1 and DIS3.

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17 LINK TO TEMPLE MILLS RII CHANNEL 1

17.1 Overview

This remote system link operates from ECS port 16. It is the link to Temple Mills RII Channel 1 with **ETB** type initialisation.

17.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	16	Baud Rate	1200
Physical Name	PG	Time-Out Period (secs)	N/A
Area	TRII	Message Retry Count	N/A
Protocol	S2	Message Retry Field Flag	N/A

The card fit data is as follows:

Card Number	0	1	2	3	4	5	6	7
Card Type	DIP	-	-	-	-	-	-	-
Card Number	8	9	10	11	12	13	14	15
Card Type	-	-	-	-	-	-	-	-
Time Out (sec)	10							
Housing Address	0							

17.3 Signalling Items

Changes on the status of the following signalling items will be transmitted by the ECS to Temple Mills RII on channel 1:

Address 00 - 03

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R1285AMW	R1285BM	R1289BM	R1289CM	R1420BM	R1420CM	R1421	R1423
-	-	-	-	-	-	-	-
S1285	S1289	S1420	S1421	S1423	-	-	-
-	-	-	-	-	-	-	-

17.4 Link Status

Changes in the status of this remote link are sent to DIS1 and DIS3.

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18 LINK TO TEMPLE MILLS RII CHANNEL 2

18.1 Overview

This remote system link operates from ECS port 18. It is the link to Temple Mills RII Channel 2 with **ETB** type initialisation.

18.2 Link Characteristics

LINK CHARACTERISTICS			
Port(s)	18	Baud Rate	1200
Physical Name	PI	Time-Out Period (secs)	N/A
Area	TRII	Message Retry Count	N/A
Protocol	S2	Message Retry Field Flag	N/A

The card fit data is as follows:

Card Number	0	1	2	3	4	5	6	7
Card Type	DIP	-	-	-	-	-	-	-
Card Number	8	9	10	11	12	13	14	15
Card Type	-	-	-	-	-	-	-	-
Time Out (sec)	10							
Housing Address	0							

18.3 Signalling Items

Changes on the status of the following signalling items will be transmitted by the ECS to Temple Mills RII on channel 2:

Address 00 - 03

BIT 1	BIT 2	BIT 3	BIT 4	BIT 5	BIT 6	BIT 7	BIT 8
R1285AMW	R1285BM	R1289BM	R1289CM	R1420BM	R1420CM	R1421	R1423
-	-	-	-	-	-	-	-
S1285	S1289	S1420	S1421	S1423	-	-	-
-	-	-	-	-	-	-	-

18.4 Link Status

Changes in the status of this remote link are sent to DIS1 and DIS3.

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