ND1703:1998/07

V5 - UK PSTN MAPPING REQUIREMENTS

Protocol Implementation Conformance Statement (PICS) proforma

Issue 2

Network Interoperability Consultative Committee
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Normative Information

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SSPE SPECIFICATION NUMBER 001- 2

V5 - UK PSTN MAPPING REQUIREMENTS

Protocol Implementation Conformance Statement (PICS) proforma

ISSUE 2

NETWORK INTER-OPERABILITY CONSULTATIVE COMMITTEE
Office of Telecommunications
50 Ludgate Hill
London EC4M 7JJ

Contents

Normative Information

History

Issue 1.0, July, 1997

Issue 2.0, July 1998

Issue 2.0, July 1998 Via NICC Web site

In order to place Issue 2 of this specification on the public area of the NICC Website the following amendment was made to the above notice of copyright and liability. In the first line “Oftel” was replaced by “the Director General of Telecommunications”. The date and issue number remain the same.

References

[1] SSPE/SPEC/001-1, Issue 1: "V5 - UK PSTN Mapping Requirements"

[2] ETS 300 324 - 1, February 1994
Signalling Protocols and Switching (SPS);
V interfaces at the digital Local Exchange (LE);
V5.1 interface for the support of Access Network (AN);
Part 1: V5.1 interface specification as amended by
ETS 300 324- 1, Amendment A1

[3] ETS 300 324 - 2, February 1994:
Signalling Protocols and Switching (SPS)
V interfaces at the digital Local Exchange (LE);
V5.1 interface for the support of Access Network (AN);
Part 2: Protocol Implementation Conformance Statement (PICS) proforma

[4] ISO/IEC 9646-1:
Information technology - Open systems interconnection Conformance testing methodology and framework - Part 1: General Concepts

[5] ISO/IEC 9646-7:
Information technology - Open systems interconnection
Conformance testing methodology and framework - Part 7:
Implementation Conformance Systems

[6] ETS 300 347 - 1, September 1994
Signalling Protocols and Switching (SPS);
V interfaces at the digital Local Exchange (LE);
V5.2 interface for the support of Access Network (AN);
Part 1: V5.2 interface specification as amended by
ETS 300 347-1, Amendment prA1

Glossary of Terms

Abbreviations

ACK	Acknowledge signal
AN	Access Network
C7 (NUP)	CCITT Signalling System Number 7 National User Part
CCITT	International Telegraph and Telephone Consultative Committee
CLASS	Custom Local Area Signalling Services
CPE	Customers Premises Equipment
CSH	Called Subscriber Hold
DEL	Direct Exchange Line
DCPI	Disconnect Clear Primitive Indicator
DDI	Direct Dial In
EOC	End Of Call

ETS	European Telecommunications Standard
ETSI	European Telecommunications Standards Institute
FE	Function Element
I/C	Incoming
IEC	International Electrotechnical Commission
ISO	International Standards Organisation
IUT	Implementation Under Test
LE	Local Exchange
M	Mandatory
MCI	Malicious Call Indication
MF	Multiple Frequency
MSC	Message Sequence Chart
O	Optional
OSI	Open Systems Interface
N/A	Not Applicable
PBX	Private Branch Exchange
PICS	Protocol Implementation Conformance Statement
PSTN	Public Switched Telephone Network
Q(AN)	Q interface at the AN
Q(LE)	Q interface at the LE
SCS	System Conformance Statement
SDL	Specification and Description Language
SPM	Subscribers Private Meter
SUT	System Under Test
TE	Terminal Equipment
TMN	Telecommunications Management Network
UK	United Kingdom of Great Britain & Northern Ireland
V5	A generic term for an ETSI interface family used to connect ANs to an LE.
V5.1	An interface conforming to ETS 300 324-1 [2]
V5.2	An interface conforming to ETS 300 347-1 [6]

Definitions

AN	Access Network - A system implemented between the Local Exchange (LE) and user, replacing part or the whole of the local line distribution network.
Analogue Port	The physical port implementation in the AN to provide the relevant interface functions towards the user. The analogue port is addressed by a logical address used in the relevant protocols on the V5 interface.
CPE	Any equipment that can be connected to a user port and is located at the customer premises such as a telephone or small call routing apparatus.

LE — Local Exchange - An exchange on which user lines may be terminated via an AN.

PICS — Protocol Implementation Conformance Statement, a document made by the supplier of an Open Systems Interconnection (OSI) implementation or system, stating which capabilities have been implemented for a given OSI protocol (see ISO/IEC 9646-1 [4]).

PICS proforma — A document, in the form of a questionnaire, designed by the committee specifying the protocol or conformance test suite, which, when completed for an OSI implementation or system, becomes the PICS (see ISO/IEC 9646-1 [4]).

Pre- Defined — A parameter is said to be Pre-defined when it is not required to be configured via the management (TMN) interface. Instead, the parameter is either intrinsically provided within the equipment or is provided on installation or re-equipping of the equipment via a local interface.

Provisioned — A parameter is said to be provisioned if it can be configured via the management (TMN) interface. Such an interface may be Q3 conformant or proprietary.

Static conformance review — A review of the extent to which the static conformance requirements are met by the Implementation Under Test (IUT), accomplished by comparing the PICS with the static conformance requirements expressed in the relevant standard(s) (see ISO/IEC 9646-1 [4]).

User port — The physical port implemented in the AN to provide the relevant interface functions towards the user. The user port is addressed by a logical address used in the relevant protocols on the V5 interface.

INTRODUCTION

This section defines the Protocol Implementation Conformance Statement (PICS) proforma for the implementation flexibility allowed for the PSTN portion of a V5 interface defined in ETS 300 324-1[2] and SSPE/SPEC/001-1 [1]. PICS can be used by:

- the Network Operator for the formulation of PSTN requirements for V5 implementation in an Access Network (AN) or a Local Exchange (LE).
- the Network Operator for determining whether a specific implementation meets the V5 requirements of that Network Operator's PSTN.
- suppliers for publishing their products degree of compliance with the standards.
- suppliers for developing a V5 design for the UK market.

It details, in tabular form, the implementation options, i.e. the optional functions additional to those which are mandatory to implement.

This specification is in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [5].

This document is intended to be used in association with the ETS 300 324-2 PICS [3] and assumes that the reader is familiar with the interpretation of PICS as used by ETSI.

The details regarding the use and interpretation of this document are specified in Annex A.

PICS PROFORMA

Identification of the Implementation

Implementation Under Test (IUT) Identification

IUT Name: _____

_____

IUT Version: _____

System Under Test (SUT) Identification

SUT Name: _____

_____

Hardware Configuration:

_____

_____

Operating System: _____

Product Supplier

Name: _____

Address: _____

_____

_____

Telephone: _____

Facsimile: _____

Miscellaneous: _____

_____

_____

Client

Name: _____

Address: _____
_____
_____

Telephone: _____

Facsimile: _____

Miscellaneous: _____
_____
_____

PICS Contact Person

Name: _____

Telephone: _____

Facsimile: _____

Miscellaneous: _____
_____

PICS/System Conformance Statement (SCS)

Provide the relationship of the PICS with the SCS for the system:

_____

_____

_____

_____

Identification of the Protocol

This PICS proforma applies to the following standards:

SSPE/SPEC/001-1 [1].

Global Statement of Conformance

The implementation described in this PICS meets all mandatory requirements of the referenced standard.

[ ] **Yes**

[ ] **No**

NOTE: Answering “No” to this question indicates a non-conformance to the protocol specification. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conforming.

Local Exchange

Summary

Index	Line Type	Basic Service	SPM	30 kΩ	Hook Flash
MX.2.1	DEL	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
MX.2.2	Loop PBX	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
MX.2.3	Earth Calling	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
MX.2.4	DDI	[ ] Yes [ ] No	N/A	N/A	N/A

DEL

Main Optional Features

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
F1	SPM?		O	5.2.1	[ ] Yes [ ] No
F2	30kΩ Loop?		O	5.2.1	[ ] Yes [ ] No
F3	Hook Flash?		O	5.2.1	[ ] Yes [ ] No

PSTN Protocol

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
PP1	Equivalent functionality to that specified for the following when considered from the external interface [D]:		M		[ ] Yes [ ] No
	Call Control Process?			3.1.7 & 5.3	
	National PSTN Protocol Process?			3.1.6	
	LE_PSTN Protocol Process?			3.1.5	

Protocol Data Units

Within ETS 300 324-2 [3] the status of some Protocol Data Unit items is shown as being conditional on "MX.2", which the ETS states is provided by the national specification. In the case of the UK, the status of those items conditional on MX.2 is provided in the clauses below.

Messages

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.9	PROTOCOL PARAMETER?		O	4.6.1	[ ] Yes [ ] No

Information Elements: General

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.12	Pulse Notification?	U1.35 OR U1.36 OR F1 NOT (U1.35 OR U1.36 OR F1)	O N/A	4.6.1.1	[ ] Yes [ ] No [ ] N/A
U1.13	Line Information?	F2 NOT F2	M N/A	4.6.1.2	[ ] Yes [ ] No [ ] N/A
U1.15	Autonomous Signalling Sequence?		N/A		
U1.16	Sequence Response?		N/A		
U1.22	Recognition Time?	U1.9 NOT U1.9	M N/A	4.6.1.9	[ ] Yes [ ] No [ ] N/A
U1.23	Enable Autonomous Acknowledge?		N/A		
U1.24	Disable Autonomous Acknowledge?		N/A		

Information Elements: Pulse Types

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.30	pulse type: Pulsed normal polarity?		N/A		
U1.31	pulse type: Pulsed reversed polarity?		N/A		
U1.32	pulse type: Pulsed battery on c-wire?		N/A		
U1.33	pulse type: Pulsed on hook?		N/A		
U1.34	pulse type: Pulsed reduced battery?		O	4.6.1.6	[ ] Yes [ ] No
U1.35	pulse type: Pulsed no battery?		O	4.6.1.6	[ ] Yes [ ] No
U1.36	pulse type: Initial ring?		O	4.6.1.6	[ ] Yes [ ] No
U1.37	pulse type: Meter pulse?	F1 NOT F1	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.38	pulse type: 50 Hz pulse?		N/A		
U1.39	pulse type: Register recall?	F3 NOT F3	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.40	pulse type: Pulsed off hook?		N/A		
U1.41	pulse type: Pulsed b-wire connected to earth?		N/A		
U1.42	pulse type: Earth loop pulse?		N/A		
U1.43	pulse type: Pulsed b-wire connected to battery?		N/A		
U1.44	pulse type: Pulsed a-wire connected to earth?		N/A		
U1.45	pulse type: Pulsed a-wire connected to battery?		N/A		
U1.46	pulse type: Pulsed c-wire connected to earth?		N/A		
U1.47	pulse type: Pulsed c-wire disconnected?		N/A		
U1.48	pulse type: Pulsed normal battery?		N/A		
U1.49	pulse type: Pulsed a-wire disconnected?		N/A		
U1.50	pulse type: Pulsed b-wire disconnected?		N/A		

U1.91	suppression indicator?	U1.34 OR U1.35 OR U1.36 OR F1 NOT (U1.34 OR U1.35 OR U1.36 OR F1)	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.92	acknowledge request indicator?	U1.36 NOT U1.36 AND (U1.35 OR F1) NOT (U1.36 AND (U1.35 OR F1))	M O N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.93	suppression indicator?		N/A		
U1.94	acknowledge request indicator?		N/A		
U1.95	digit acknowledge request indicator?		M	4.6.1.8	[ ] Yes [ ] No

Information Elements: Steady Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.51	Steady signal: Normal polarity?		O	4.6.1.7	[ ] Yes [ ] No
U1.52	Steady signal: Reversed polarity?		O	4.6.1.7	[ ] Yes [ ] No
U1.53	Steady signal: Battery on c-wire?		N/A		
U1.54	Steady signal: No battery on c-wire?		N/A		
U1.55	Steady signal: Off hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.56	Steady signal: On hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.57	Steady signal: Battery on a-wire?		N/A		
U1.58	Steady signal: A-wire on earth?		N/A		
U1.59	Steady signal: No battery on a-wire?		N/A		
U1.60	Steady signal: No battery on b-wire?		N/A		
U1.61	Steady signal: Reduced battery?		O	4.6.1.7	[ ] Yes [ ] No
U1.62	Steady signal: No battery?		N/A		
U1.63	Steady signal: Alternate reduced power/no power?		N/A		
U1.64	Steady signal: Normal Battery?		N/A		
U1.65	Steady signal: Stop ringing?		N/A		
U1.66	Steady signal: Start pilot frequency?		N/A		
U1.67	Steady signal: Stop pilot frequency?		N/A		
U1.68	Steady signal: Low impedance on b-wire?		N/A		
U1.69	Steady signal: B-wire connected to earth?		N/A		
U1.70	Steady signal: B-wire disconnected from earth?		N/A		
U1.71	Steady signal: Normal battery on b-wire?		N/A		
U1.72	Steady signal: Low loop impedance?		N/A		
U1.73	Steady signal: High loop impedance?		N/A		
U1.74	Steady signal: Anomalous loop impedance?		N/A		
U1.75	Steady signal: A-wire disconnected from earth?		N/A		
U1.76	Steady signal: C-wire on earth?		N/A		
U1.77	Steady signal: C-wire disconnected from earth?		N/A		

Error Handling

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
EH1	Unrecognised Information Elements?		M	4.6.2.1	[ ] Yes [ ] No
EH2	IE Content Error?		M	4.6.2.1	[ ] Yes [ ] No

Message/Information Element Summary

Messages From AN

First of 3 tables - Messages from AN

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing	Recognition Time
Establish	N/A	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	N/A

Second of 3 tables - Messages from AN

IE / Message	Pulse Notification	Pulsed Signal				
		Pulsed Reduced Battery	Pulsed No Battery	Initial Ring	Meter Pulse	Register Recall
Establish	N/A	N/A	N/A	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	N/A	N/A
Signal	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	N/A

Third of 3 Tables - Messages from AN

IE / Message	Steady Signal				
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery
Establish	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	N/A
Signal	N/A	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

Messages To AN

First of 3 tables - Messages to AN

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing	Recognition Time
Establish	N/A	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Signal	N/A	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	[ ] Yes [ ] No

Second of 3 tables - Messages to AN

IE / Message	Pulse Notification	Pulsed Signal				
		Pulsed Reduced Battery	Pulsed No Battery	Initial Ring	Meter Pulse	Register Recall
Establish	N/A	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	N/A	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	N/A

Third of 3 tables - Messages to AN

IE / Message	Steady Signal				
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery
Establish	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	[ ] Yes [ ] No
Signal	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

LOOP CALLING PBX

Main Optional Features

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
F1	SPM?		O	6.2.1	[ ] Yes [ ] No
F2	30kΩ Loop?		O	6.2.1	[ ] Yes [ ] No
F3	Hook Flash?		O	6.2.1	[ ] Yes [ ] No

PSTN Protocol

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
PP1	Equivalent functionality to that specified for the following when considered from the external interface [D]: Call Control Process? National PSTN Protocol Process? LE_PSTN Protocol Process?		M	 3.1.7 & 6.3 3.1.6 3.1.5	[ ] Yes [ ] No

Protocol Data Units

Within ETS 300 324-2 [3] the status of some Protocol Data Unit items is shown as being conditional on "MX.2", which the ETS states is provided by the national specification. In the case of the UK, the status of those items conditional on MX.2 is provided in the clauses below.

Messages

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.9	PROTOCOL PARAMETER?		O	4.6.1	[ ] Yes [ ] No

Information Elements: General

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.12	Pulse Notification?	U1.35 OR U1.36 OR F1 NOT (U1.35 OR U1.36 OR F1)	O N/A	4.6.1.1	[ ] Yes [ ] No] N/A
U1.13	Line Information?	F2 NOT F2	M N/A	4.6.1.2	[ ] Yes [ ] No [ ] N/A
U1.15	Autonomous Signalling Sequence?		N/A		
U1.16	Sequence Response?		N/A		
U1.22	Recognition Time?	U1.9 NOT U1.9	M N/A	4.6.1.9	[ ] Yes [ ] No [ ] N/A
U1.23	Enable Autonomous Acknowledge?		N/A		
U1.24	Disable Autonomous Acknowledge?		N/A		

Information Elements: Pulse Types

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.30	pulse type: Pulsed normal polarity?		N/A		
U1.31	pulse type: Pulsed reversed polarity?		N/A		
U1.32	pulse type: Pulsed battery on c-wire?		N/A		
U1.33	pulse type: Pulsed on hook?		N/A		
U1.34	pulse type: Pulsed reduced battery?		N/A		
U1.35	pulse type: Pulsed no battery?		O	4.6.1.6	[ ] Yes [ ] No
U1.36	pulse type: Initial ring?		O	4.6.1.6	[ ] Yes [ ] No
U1.37	pulse type: Meter pulse?	F1 NOT F1	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.38	pulse type: 50 Hz pulse?		N/A		
U1.39	pulse type: Register recall?	F3 NOT F3	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.40	pulse type: Pulsed off hook?		N/A		
U1.41	pulse type: Pulsed b-wire connected to earth?		N/A		
U1.42	pulse type: Earth loop pulse?		N/A		
U1.43	pulse type: Pulsed b-wire connected to battery?		N/A		
U1.44	pulse type: Pulsed a-wire connected to earth?		N/A		
U1.45	pulse type: Pulsed a-wire connected to battery?		N/A		
U1.46	pulse type: Pulsed c-wire connected to earth?		N/A		
U1.47	pulse type: Pulsed c-wire disconnected?		N/A		
U1.48	pulse type: Pulsed normal battery?		N/A		
U1.49	pulse type: Pulsed a-wire disconnected?		N/A		
U1.50	pulse type: Pulsed b-wire disconnected?		N/A		

U1.91	suppression indicator?	U1.35 OR U1.36 OR F1 NOT (U1.35 OR U1.36 OR F1)	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.92	acknowledge request indicator?	U1.36 NOT U1.36 AND (U1.35 OR F1) NOT (U1.36 AND (U1.35 OR F1))	M O N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.93	suppression indicator?		N/A		
U1.94	acknowledge request indicator?		N/A		
U1.95	digit acknowledge request indicator?		M	4.6.1.8	[ ] Yes [ ] No

Information Elements: Steady Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.51	Steady signal: Normal polarity?		O	4.6.1.7	[ ] Yes [ ] No
U1.52	Steady signal: Reversed polarity?		O	4.6.1.7	[ ] Yes [ ] No
U1.53	Steady signal: Battery on c-wire?		N/A		
U1.54	Steady signal: No battery on c-wire?		N/A		
U1.55	Steady signal: Off hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.56	Steady signal: On hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.57	Steady signal: Battery on a-wire?		N/A		
U1.58	Steady signal: A-wire on earth?		N/A		
U1.59	Steady signal: No battery on a-wire?		N/A		
U1.60	Steady signal: No battery on b-wire?		N/A		
U1.61	Steady signal: Reduced battery?		O	4.6.1.7	[ ] Yes [ ] No
U1.62	Steady signal: No battery?		N/A		
U1.63	Steady signal: Alternate reduced power/no power?		N/A		
U1.64	Steady signal: Normal Battery?		N/A		
U1.65	Steady signal: Stop ringing?		N/A		
U1.66	Steady signal: Start pilot frequency?		N/A		
U1.67	Steady signal: Stop pilot frequency?		N/A		
U1.68	Steady signal: Low impedance on b-wire?		N/A		
U1.69	Steady signal: B-wire connected to earth?		N/A		
U1.70	Steady signal: B-wire disconnected from earth?		N/A		
U1.71	Steady signal: Normal battery on b-wire?		N/A		
U1.72	Steady signal: Low loop impedance?		N/A		
U1.73	Steady signal: High loop impedance?		N/A		
U1.74	Steady signal: Anomalous loop impedance?		N/A		
U1.75	Steady signal: A-wire disconnected from earth?		N/A		
U1.76	Steady signal: C-wire on earth?		N/A		
U1.77	Steady signal: C-wire disconnected from earth?		N/A		

Error Handling

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
EH1	Unrecognised Information Elements?		M	4.6.2.1	[ ] Yes [ ] No
EH2	IE Content Error?		M	4.6.2.1	[ ] Yes [ ] No

Message/Information Element Summary

Messages From AN

First of 3 tables - Messages from AN

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing	Recognition Time
Establish	N/A	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	N/A

Second of 3 tables - Messages from AN

IE / Message	Pulse Notification	Pulsed Signal			
		Pulsed No Battery	Initial Ring	Meter Pulse	Register Recall
Establish	N/A	N/A	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	N/A
Signal	[ ] Yes [ ] No	N/A	N/A	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

Third of 3 Tables - Messages from AN

IE / Message	Steady Signal				
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery
Establish	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	N/A
Signal	N/A	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

Messages To AN

First of 3 tables - Messages to AN

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing	Recognition Time
Establish	N/A	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Signal	N/A	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	[ ] Yes [ ] No

Second of 3 tables - Messages to AN

IE / Message	Pulse Notification	Pulsed Signal			
		Pulsed No Battery	Initial Ring	Meter Pulse	Register Recall
Establish	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	N/A	[ ] Yes [ ] No	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

Third of 3 tables - Messages to AN

IE / Message	Steady Signal				
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery
Establish	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	[ ] Yes [ ] No
Signal	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

EARTH CALLING PBX

Main Optional Features

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
F1	SPM?		O	7.2.1	[ ] Yes [ ] No
F2	30kΩ Loop?		O	7.2.1	[ ] Yes [ ] No
F3	Hook Flash?		O	7.2.1	[ ] Yes [ ] No

PSTN Protocol

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
PP1	Equivalent functionality to that specified for the following when considered from the external interface [D]:		M		[ ] Yes [ ] No
	Call Control Process?			3.1.7 & 7.3	
	National PSTN Protocol Process?			3.1.6	
	LE_PSTN Protocol Process?			3.1.5	

Protocol Data Units

Within ETS 300 324-2 [3] the status of some Protocol Data Unit items is shown as being conditional on "MX.2", which the ETS states is provided by the national specification. In the case of the UK, the status of those items conditional on MX.2 is provided in the clauses below.

Messages

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.9	PROTOCOL PARAMETER?		N/A		

Information Elements: General

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.12	Pulse Notification?	U1.35 OR F1 NOT (U1.35 OR F1)	O N/A	4.6.1.1	[ ] Yes [ ] No [ ] N/A
U1.13	Line Information?	F2 NOT F2	M N/A	4.6.1.2	[ ] Yes [ ] No [ ] N/A
U1.15	Autonomous Signalling Sequence?		N/A		
U1.16	Sequence Response?		N/A		
U1.22	Recognition Time?		N/A		
U1.23	Enable Autonomous Acknowledge?		N/A		
U1.24	Disable Autonomous Acknowledge?		N/A		

Information Elements: Pulse Types

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.30	pulse type: Pulsed normal polarity?		N/A		
U1.31	pulse type: Pulsed reversed polarity?		N/A		
U1.32	pulse type: Pulsed battery on c-wire?		N/A		
U1.33	pulse type: Pulsed on hook?		N/A		
U1.34	pulse type: Pulsed reduced battery?		N/A		
U1.35	pulse type: Pulsed no battery?		O	4.6.1.6	[ ] Yes [ ] No
U1.36	pulse type: Initial ring?		N/A		
U1.37	pulse type: Meter pulse?	F1 NOT F1	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.38	pulse type: 50 Hz pulse?		N/A		
U1.39	pulse type: Register recall?	F3 NOT F3	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.40	pulse type: Pulsed off hook?		N/A		
U1.41	pulse type: Pulsed b-wire connected to earth?		N/A		
U1.42	pulse type: Earth loop pulse?		N/A		
U1.43	pulse type: Pulsed b-wire connected to battery?		N/A		
U1.44	pulse type: Pulsed a-wire connected to earth?		N/A		
U1.45	pulse type: Pulsed a-wire connected to battery?		N/A		
U1.46	pulse type: Pulsed c-wire connected to earth?		N/A		
U1.47	pulse type: Pulsed c-wire disconnected?		N/A		
U1.48	pulse type: Pulsed normal battery?		N/A		
U1.49	pulse type: Pulsed a-wire disconnected?		N/A		
U1.50	pulse type: Pulsed b-wire disconnected?		N/A		

U1.91	suppression indicator?	U1.35 OR F1 NOT (U1.35 OR F1)	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.92	acknowledge request indicator?	U1.35 OR F1 NOT (U1.35 OR F1)	O N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.93	suppression indicator?		N/A		
U1.94	acknowledge request indicator?		N/A		
U1.95	digit acknowledge request indicator?		M	4.6.1.8	[ ] Yes [ ] No

Information Elements: Steady Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.51	Steady signal: Normal polarity?		O	4.6.1.7	[ ] Yes [ ] No
U1.52	Steady signal: Reversed polarity?		O	4.6.1.7	[ ] Yes [ ] No
U1.53	Steady signal: Battery on c-wire?		N/A		
U1.54	Steady signal: No battery on c-wire?		N/A		
U1.55	Steady signal: Off hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.56	Steady signal: On hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.57	Steady signal: Battery on a-wire?		N/A		
U1.58	Steady signal: A-wire on earth?		N/A		
U1.59	Steady signal: No battery on a-wire?		N/A		
U1.60	Steady signal: No battery on b-wire?		N/A		
U1.61	Steady signal: Reduced battery?		O	4.6.1.7	[ ] Yes [ ] No
U1.62	Steady signal: No battery?		N/A		
U1.63	Steady signal: Alternate reduced power/no power?		N/A		
U1.64	Steady signal: Normal Battery?		N/A		
U1.65	Steady signal: Stop ringing?		N/A		
U1.66	Steady signal: Start pilot frequency?		N/A		
U1.67	Steady signal: Stop pilot frequency?		N/A		
U1.68	Steady signal: Low impedance on b-wire?		N/A		
U1.69	Steady signal: B-wire connected to earth?		M	4.6.1.7	[ ] Yes [ ] No
U1.70	Steady signal: B-wire disconnected from earth?		N/A		
U1.71	Steady signal: Normal battery on b-wire?		N/A		
U1.72	Steady signal: Low loop impedance?		N/A		
U1.73	Steady signal: High loop impedance?		N/A		
U1.74	Steady signal: Anomalous loop impedance?		N/A		
U1.75	Steady signal: A-wire disconnected from earth?		N/A		
U1.76	Steady signal: C-wire on earth?		N/A		
U1.77	Steady signal: C-wire disconnected from earth?		N/A		

Error Handling

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
EH1	Unrecognised Information Elements?		M	4.6.2.1	[ ] Yes [ ] No
EH2	IE Content Error?		M	4.6.2.1	[ ] Yes [ ] No

Message/Information Element Summary

Messages From AN

First of 3 tables - Messages from AN

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing
Establish	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A

Second of 3 tables - Messages from AN

IE / Message	Pulse	Pulsed Signal		
		Pulsed No Battery	Meter Pulse	Register Recall
Establish	N/A	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A
Signal	[ ] Yes [ ] No	N/A	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A

Third of 3 Tables - Messages from AN

IE / Message	Steady Signal					
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery	B-Wire Connected to Earth
Establish	N/A	N/A	[ ] Yes [ ] No	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	N/A	N/A
Signal	N/A	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A	N/A

Messages To AN

First of 3 tables - Messages to AN

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing
Establish	N/A	N/A	N/A	N/A	[ ] Yes [ ] No
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Signal	N/A	N/A	N/A	N/A	[ ] Yes [ ] No
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A

Second of 3 tables - Messages to AN

IE / Message	Pulse Notification	Pulsed Signal		
		Pulsed No Battery	Meter Pulse	Register Recall
Establish	N/A	N/A	N/A	N/A
Establish Ack	N/A	[ ] Yes [ ] No	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A

Third of 3 tables - Messages to AN

IE / Message	Steady Signal					
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery	B-Wire Connected to Earth
Establish	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Signal	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A	N/A

DDI PBX

Main Optional Features

There are no main optional features for the DDI portion of the protocol.

PSTN Protocol

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
PP1	Equivalent functionality to that specified for the following when considered from the external interface [D]:		M		[ ] Yes [ ] No
	Call Control Process?			3.1.7 & 8.3	
	National PSTN Protocol Process?			3.1.6	
	LE_PSTN Protocol Process?			3.1.5	

Protocol Data Units

Within ETS 300 324-2 [3] the status of some Protocol Data Unit items is shown as being conditional on "MX.2", which the ETS states is provided by the national specification. In the case of the UK, the status of those items conditional on MX.2 is provided in the clauses below.

Messages

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.9	PROTOCOL PARAMETER?		N/A		

Information Elements: General

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.12	Pulse Notification?		M	4.6.1.1	[ ] Yes [ ] No
U1.13	Line Information?		N/A		
U1.15	Autonomous Signalling Sequence?		N/A		
U1.16	Sequence Response?		N/A		
U1.22	Recognition Time?		N/A		
U1.23	Enable Autonomous Acknowledge?		N/A		
U1.24	Disable Autonomous Acknowledge?		N/A		

Information Elements: Pulse Types

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.30	pulse type: Pulsed normal polarity?		N/A		
U1.31	pulse type: Pulsed reversed polarity?		N/A		
U1.32	pulse type: Pulsed battery on c-wire?		N/A		
U1.33	pulse type: Pulsed on hook?		M	4.6.1.6	[ ] Yes [ ] No
U1.34	pulse type: Pulsed reduced battery?		N/A		
U1.35	pulse type: Pulsed no battery?		N/A		
U1.36	pulse type: Initial ring?		N/A		
U1.37	pulse type: Meter pulse?		N/A		
U1.38	pulse type: 50 Hz pulse?		N/A		
U1.39	pulse type: Register recall?		N/A		
U1.40	pulse type: Pulsed off hook?		N/A		
U1.41	pulse type: Pulsed b-wire connected to earth?		N/A		
U1.42	pulse type: Earth loop pulse?		N/A		
U1.43	pulse type: Pulsed b-wire connected to battery?		N/A		
U1.44	pulse type: Pulsed a-wire connected to earth?		N/A		
U1.45	pulse type: Pulsed a-wire connected to battery?		N/A		
U1.46	pulse type: Pulsed c-wire connected to earth?		N/A		
U1.47	pulse type: Pulsed c-wire disconnected?		N/A		
U1.48	pulse type: Pulsed normal battery?		N/A		
U1.49	pulse type: Pulsed a-wire disconnected?		N/A		
U1.50	pulse type: Pulsed b-wire disconnected?		N/A		

U1.91	suppression indicator?		M	4.6.1.6	[ ] Yes [ ] No
U1.92	acknowledge request indicator?		M	4.6.1.6	[ ] Yes [ ] No
U1.93	suppression indicator?		N/A		
U1.94	acknowledge request indicator?		N/A		
U1.95	digit acknowledge request indicator?		M	4.6.1.8	[ ] Yes [ ] No

Information Elements: Steady Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.51	Steady signal: Normal polarity?		M	4.6.1.7	[ ] Yes [ ] No
U1.52	Steady signal: Reversed polarity?		M	4.6.1.7	[ ] Yes [ ] No
U1.53	Steady signal: Battery on c-wire?		N/A		
U1.54	Steady signal: No battery on c-wire?		N/A		
U1.55	Steady signal: Off hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.56	Steady signal: On hook?		N/A		
U1.57	Steady signal: Battery on a-wire?		N/A		
U1.58	Steady signal: A-wire on earth?		N/A		
U1.59	Steady signal: No battery on a-wire?		N/A		
U1.60	Steady signal: No battery on b-wire?		N/A		
U1.61	Steady signal: Reduced battery?		N/A		
U1.62	Steady signal: No battery?		M	4.6.1.7	[ ] Yes [ ] No
U1.63	Steady signal: Alternate reduced power/no power?		N/A		
U1.64	Steady signal: Normal Battery?		N/A		
U1.65	Steady signal: Stop ringing?		N/A		
U1.66	Steady signal: Start pilot frequency?		N/A		
U1.67	Steady signal: Stop pilot frequency?		N/A		
U1.68	Steady signal: Low impedance on b-wire?		N/A		
U1.69	Steady signal: B-wire connected to earth?		N/A		
U1.70	Steady signal: B-wire disconnected from earth?		N/A		
U1.71	Steady signal: Normal battery on b-wire?		N/A		
U1.72	Steady signal: Low loop impedance?		N/A		
U1.73	Steady signal: High loop impedance?		N/A		
U1.74	Steady signal: Anomalous loop impedance?		N/A		
U1.75	Steady signal: A-wire disconnected from earth?		N/A		
U1.76	Steady signal: C-wire on earth?		N/A		
U1.77	Steady signal: C-wire disconnected from earth?		N/A		

Error Handling

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
EH1	Unrecognised Information Elements?		M	4.6.2.1	[ ] Yes [ ] No
EH2	IE Content Error?		M	4.6.2.1	[ ] Yes [ ] No

Message/Information Element Summary

Messages From AN

First of 2 tables - Messages from AN

IE / Message	None	Digit Signal	Resource Unavailable	Pulse Notification	Pulsed Signal
					Pulsed On Hook
Establish	N/A	N/A	N/A	N/A	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Signal	N/A	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A

Second of 2 Tables - Messages from AN

IE / Message	Steady Signal			
	Normal Polarity	Reversed Polarity	Off Hook	No Battery
Establish	N/A	N/A	N/A	[ ] Yes [ ] No
Establish Ack	N/A	N/A	N/A	N/A
Signal	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A

Messages To AN

First of 2 tables - Messages to AN

IE / Message	None	Digit Signal	Resource Unavailable	Pulse Notification	Pulsed Signal
					Pulsed On Hook
Establish	N/A	N/A	N/A	N/A	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	N/A	N/A	[ ] Yes [ ] No
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A

Second of 2 tables - Messages to AN

IE / Message	Steady Signal			
	Normal Polarity	Reversed Polarity	Off Hook	No Battery
Establish	N/A	N/A	[ ] Yes [ ] No	N/A
Establish Ack	N/A	N/A	N/A	N/A
Signal	N/A	N/A	N/A	N/A
Disconnect	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A

Access Network

Summary

Index	Line Type	Basic Service	SPM	30 kΩ	Hook Flash
MX.2.1	DEL Basic Call	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
MX.2.2	Loop PBX	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
MX.2.3	Earth Calling	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No
MX.2.4	DDI	[ ] Yes [ ] No	N/A	N/A	N/A

DEL

Main Optional Features

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
F1	SPM?		O	5.2.1	[ ] Yes [ ] No
F2	30 kΩ Loop?		O	5.2.1	[ ] Yes [ ] No
F3	Hook Flash?		O	5.2.1	[ ] Yes [ ] No

Analogue Line Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
ASD1	ON-HOOK?		M	5.2.1	[ ] Yes [ ] No
ASD2	OFF-HOOK?		M	5.2.1	[ ] Yes [ ] No
ASD3	30 kΩ LOOP?	F2 NOT F2	M N/A	5.2.1	[ ] Yes [ ] No [ ] N/A
ASD4	DIGITS?		M	5.2.1	[ ] Yes [ ] No
ASD5	REGISTER RECALL?		M	5.2.1	[ ] Yes [ ] No
ASD6	NORMAL POWER FEED?		M	5.2.1	[ ] Yes [ ] No
ASD7	REVERSED POWER FEED?		M	5.2.1	[ ] Yes [ ] No
ASD8	END OF CALL?		M	5.2.1	[ ] Yes [ ] No
ASD9	DISCONNECT CLEAR?		M	5.2.1	[ ] Yes [ ] No
ASD10	PARKED LINE FEED?		M	5.2.1	[ ] Yes [ ] No
ASD11	CALL ARRIVAL INDICATION?		M	5.2.1	[ ] Yes [ ] No
ASD12	INITIAL RING?		M	5.2.1	[ ] Yes [ ] No
ASD13	SPM?	F1 NOT F1	M N/A	5.2.1	[ ] Yes [ ] No [ ] N/A
ASD14	HOOK FLASH?	F3 NOT F3	M N/A	5.2.1	[ ] Yes [ ] No [ ] N/A

PSTN Protocol

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
PP1	Equivalent functionality to that specified for the following, when considered from the external interfaces [A and D]: Analogue Port Process? AN_PSTN User Port Process? AN_PSTN Protocol Process?		M	 3.1.1 & 5.2 3.1.2 3.1.3	[ ] Yes [ ] No

Protocol Data Units

Within ETS 300 324-2 the status of some Protocol Data Unit items is shown as being conditional on “MX.2” which the ETS states is provided by the national specification. In the case of the UK, the status of those items conditional on MX.2 is provided in the clauses below.

Messages

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.9	PROTOCOL PARAMETER?		M	4.6.1	[ ] Yes [ ] No

Information Elements General

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.12	Pulse Notification?		M	4.6.1.1	[ ] Yes [ ] No
U1.13	Line Information?	F2 NOT F2	M N/A	4.6.1.2	[ ] Yes [ ] No [ ] N/A
U1.15	Autonomous Signalling Sequence?		N/A		
U1.16	Sequence Response?		N/A		
U1.22	Recognition Time?	U1.9	M	4.6.1.9	[ ] Yes [ ] No
U1.23	Enable Autonomous Acknowledge?		N/A		
U1.24	Disable Autonomous Acknowledge?		N/A		

Information Elements: Pulse Types

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.30	pulse type: Pulsed normal polarity?		N/A		
U1.31	pulse type: Pulsed reversed polarity?		N/A		
U1.32	pulse type: Pulsed battery on c-wire?		N/A		
U1.33	pulse type: Pulsed on hook?		N/A		
U1.34	pulse type: Pulsed reduced battery?		M	4.6.1.6	[ ] Yes [ ] No
U1.35	pulse type: Pulsed no battery?		M	4.6.1.6	[ ] Yes [ ] No
U1.36	pulse type: Initial ring?		M	4.6.1.6	[ ] Yes [ ] No
U1.37	pulse type: Meter pulse?	F1 NOT F1	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.38	pulse type: 50 Hz pulse?		N/A		
U1.39	pulse type: Register recall?	F3 NOT F3	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.40	pulse type: Pulsed off hook?		N/A		
U1.41	pulse type: Pulsed b-wire connected to earth?		N/A		
U1.42	pulse type: Earth loop pulse?		N/A		
U1.43	pulse type: Pulsed b-wire connected to battery?		N/A		
U1.44	pulse type: Pulsed a-wire connected to earth?		N/A		
U1.45	pulse type: Pulsed a-wire connected to battery?		N/A		
U1.46	pulse type: Pulsed c-wire connected to earth?		N/A		
U1.47	pulse type: Pulsed c-wire disconnected?		N/A		
U1.48	pulse type: Pulsed normal battery?		N/A		
U1.49	pulse type: Pulsed a-wire disconnected?		N/A		
U1.50	pulse type: Pulsed b-wire disconnected?		N/A		

U1.91	suppression indicator?		M	4.6.1.6	[ ] Yes [ ] No
U1.92	acknowledge request indicator?		M	4.6.1.6	[ ] Yes [ ] No
U1.93	suppression indicator?		N/A		
U1.94	acknowledge request indicator?		N/A		
U1.95	digit acknowledge request indicator?		M	4.6.1.8.[1]	[ ] Yes [ ] No

Information Elements: Steady Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.51	Steady signal: Normal polarity?		M	4.6.1.7	[ ] Yes [ ] No
U1.52	Steady signal: Reversed polarity?		M	4.6.1.7	[ ] Yes [ ] No
U1.53	Steady signal: Battery on c-wire?		N/A		
U1.54	Steady signal: No battery on c-wire?		N/A		
U1.55	Steady signal: Off hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.56	Steady signal: On hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.57	Steady signal: Battery on a-wire?		N/A		
U1.58	Steady signal: A-wire on earth?		N/A		
U1.59	Steady signal: No battery on a-wire?		N/A		
U1.60	Steady signal: No battery on b-wire?		N/A		
U1.61	Steady signal: Reduced battery?		M	4.6.1.7	[ ] Yes [ ] No
U1.62	Steady signal: No battery?		N/A		
U1.63	Steady signal: Alternate reduced power/no power?		N/A		
U1.64	Steady signal: Normal Battery?		N/A		
U1.65	Steady signal: Stop ringing?		N/A		
U1.66	Steady signal: Start pilot frequency?		N/A		
U1.67	Steady signal: Stop pilot frequency?		N/A		
U1.68	Steady signal: Low impedance on b-wire?		N/A		
U1.69	Steady signal: B-wire connected to earth?		N/A		
U1.70	Steady signal: B-wire disconnected from earth?		N/A		
U1.71	Steady signal: Normal battery on b-wire?		N/A		
U1.72	Steady signal: Low loop impedance?		N/A		
U1.73	Steady signal: High loop impedance?		N/A		
U1.74	Steady signal: Anomalous loop impedance?		N/A		
U1.75	Steady signal: A-wire disconnected from earth?		N/A		
U1.76	Steady signal: C-wire on earth?		N/A		
U1.77	Steady signal: C-wire disconnected from earth?		N/A		

Error Handling

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
EH1	Unrecognised Information Elements?		M	4.6.2.1	[ ] Yes [ ] No
EH2	IE Content Error?		M	4.6.2.1	[ ] Yes [ ] No

Autonomous Actions

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
AAD1	Whilst a Pulsed Signal is being applied - Receipt of a line or control primitive?		M	5.2.3.1.1	[ ] Yes [ ] No
AAD2.1	Whilst a Pulsed Signal is being applied - Receipt of a management primitive : storage?		O.1	5.2.3.1.2 (a)	[ ] Yes [ ] No
AAD2.2	Whilst a Pulsed Signal is being applied - Receipt of a management primitive : truncation?		O.1	5.2.3.1.2 (b)	[ ] Yes [ ] No
AAD3	Whilst a Pulsed Signal is being applied - Receipt of External Analogue Signal?		M	5.2.3.1.3	[ ] Yes [ ] No
AAD4	Whilst a Pulsed Signal is being applied - Receipt of New Incoming Call?		M	5.2.3.1.4	[ ] Yes [ ] No
AAD5	Completion / truncation of Pulsed Signal: DISCONNECT CLEAR?		M	5.2.3.2.1 (a)	[ ] Yes [ ] No
AAD6.1	Completion / truncation of Pulsed Signal: END OF CALL - apply NORMAL POWER FEED?		O.2	5.2.3.2.1 (b) (I)	[ ] Yes [ ] No
AAD6.2	Completion / truncation of Pulsed Signal: END OF CALL - Reapply steady signal?		O.2	5.2.3.2.1 (b) (II)	[ ] Yes [ ] No
AAD6.3	Completion / truncation of Pulsed Signal: Any other pulsed signal?		M	5.2.3.2.1 (c)	[ ] Yes [ ] No
AAD7	Completion / truncation of Pulsed Signal: Stored primitives?		M	5.2.3.2.2	[ ] Yes [ ] No
AAD8	Receipt of call finished : DCPI = Received?		M	5.2.3.3.1	[ ] Yes [ ] No
AAD9	Receipt of call finished : DCPI = Not Received?		M	5.2.3.3.2	[ ] Yes [ ] No
AAD10	Receipt of call finished : DCPI = Not Received; CPE applying ON-HOOK; Send DISCONNECT CLEAR		O	5.2.3.3.2 (a) (II)	[ ] Yes [ ] No
AAD11	Receipt of Restart Mgmt Primitive : DCPI = Received?		M	5.2.3.4.1	[ ] Yes [ ] No
AAD12	Receipt of Restart Mgmt Primitive : DCPI = Not Received?		M	5.2.3.4.2	[ ] Yes [ ] No
AAD13	Receipt of Restart Mgmt Primitive : DCPI = Not Received; CPE applying ON-HOOK; Send DISCONNECT CLEAR?		O	5.2.3.4.2 (a) (II)	[ ] Yes [ ] No

AAD14	Receipt of Block Mgmt Primitive : DCPI = Received?		M	5.2.3.5.1	[ ] Yes [ ] No
AAD15	Receipt of Block Mgmt Primitive : DCPI = Not Received?		M	5.2.3.5.2	[ ] Yes [ ] No
AAD16	Receipt of Block Mgmt Primitive : DCPI = Not Received; CPE applying ON-HOOK; Send DISCONNECT CLEAR?		O	5.2.3.5.2 (a) (I)	[ ] Yes [ ] No
AAD17	Receipt of DIGITS in any valid state?		M	5.2.3.6.1	[ ] Yes [ ] No
AAD18	Receipt of OFF-HOOK during application of CALL ARRIVAL INDICATION?		M	5.2.3.6.2	[ ] Yes [ ] No
AAD19	Receipt of External 30kΩ Signal?	F2 NOT F2	M N/A	5.2.3.6.3	[ ] Yes [ ] No [ ] N/A
AAD20	Receipt of Steady Signal?		M	5.2.3.6.4	[ ] Yes [ ] No
AAD21	Receipt of call arrival indication?		M	5.2.3.6.5	[ ] Yes [ ] No
AAD22	Additional AN resources required?		M	5.2.3.6.6	[ ] Yes [ ] No
AAD23	Receipt of Unblock whilst port is blocked?		M	5.2.3.6.7	[ ] Yes [ ] No
AAD24	Receipt of REGISTER RECALL or HOOK FLASH while awaiting LE ack.?		M	5.2.3.6.8	[ ] Yes [ ] No
AAD25	Setting of DCPI?		M	5.2.3.6.9	[ ] Yes [ ] No
AAD26	Receipt of Unrecognised Primitives?		M	5.2.3.7.1	[ ] Yes [ ] No
AAD27	Receipt of Unexpected Primitives?		M	5.2.3.7.2	[ ] Yes [ ] No
O.1 = Support of at least one of these items is required, while only one can be active. O.2 = Support of at least one of these items is required, while only one can be active.					

Message/Information Element Summary

Messages From LE

First of 3 tables - Messages from LE

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing	Recognition Time
Establish	N/A	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Signal	N/A	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	[ ] Yes [ ] No

Second of 3 tables - Messages from LE

IE / Message	Pulse Notification	Pulsed Signal				
		Pulsed Reduced Battery	Pulsed No Battery	Initial Ring	Meter Pulse	Register Recall
Establish	N/A	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	N/A	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	N/A

Third of 3 tables - Messages from LE

IE / Message	Steady Signal				
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery
Establish	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	[ ] Yes [ ] No
Signal	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

Messages To LE

First of 3 tables - Messages to LE

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing	Recognition Time
Establish	N/A	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	N/A

Second of 3 tables - Messages to LE

IE / Message	Pulse Notification	Pulsed Signal				
		Pulsed Reduced Battery	Pulsed No Battery	Initial Ring	Meter Pulse	Register Recall
Establish	N/A	N/A	N/A	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	N/A	N/A
Signal	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	N/A

Third of 3 Tables - Messages to LE

IE / Message	Steady Signal				
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery
Establish	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	N/A
Signal	N/A	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

LOOP CALLING PBX

Main Optional Features

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
F1	SPM?		O	6.2.1	[ ] Yes [ ] No
F2	30 kΩ Loop?		O	6.2.1	[ ] Yes [ ] No
F3	Hook Flash?		O	6.2.1	[ ] Yes [ ] No

Analogue Line Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
ASL1	ON-HOOK?		M	6.2.1	[ ] Yes [ ] No
ASL2	OFF-HOOK?		M	6.2.1	[ ] Yes [ ] No
ASL3	30 kΩ LOOP?	F2 NOT F2	M N/A	6.2.1	[ ] Yes [ ] No [ ] N/A
ASL4	DIGITS?		M	6.2.1	[ ] Yes [ ] No
ASL5	REGISTER RECALL?		M	6.2.1	[ ] Yes [ ] No
ASL6	NORMAL POWER FEED?		M	6.2.1	[ ] Yes [ ] No
ASL7	REVERSED POWER FEED?		M	6.2.1	[ ] Yes [ ] No
ASL8	DISCONNECT CLEAR?		M	6.2.1	[ ] Yes [ ] No
ASL9	PARKED LINE FEED?		M	6.2.1	[ ] Yes [ ] No
ASL10	CALL ARRIVAL INDICATION?		M	6.2.1	[ ] Yes [ ] No
ASL11	INITIAL RING?		M	6.2.1	[ ] Yes [ ] No
ASL12	SPM?	F1 NOT F1	M N/A	6.2.1	[ ] Yes [ ] No [ ] N/A
ASL13	HOOK FLASH?	F3 NOT F3	M N/A	6.2.1	[ ] Yes [ ] No [ ] N/A

PSTN Protocol

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
PP1	Equivalent functionality to that specified for the following, when considered from the external interfaces [A and D]:		M		[ ] Yes [ ] No
	Analogue Port Process?			3.1.1 & 6.2	
	AN_PSTN User Port Process?			3.1.2	
	AN_PSTN Protocol Process?			3.1.3	

Protocol Data Units

Within ETS 300 324-2 the status of some Protocol Data Unit items is shown as being conditional on “MX.2” which the ETS states is provided by the national specification. In the case of the UK, the status of those items conditional on MX.2 is provided in the clauses below.

Messages

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.9	PROTOCOL PARAMETER?		M	4.6.1	[ ] Yes [ ] No

Information Elements General

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.12	Pulse Notification?		M	4.6.1.1	[ ] Yes [ ] No
U1.13	Line Information?	F2 NOT F2	M N/A	4.6.1.2	[ ] Yes [ ] No [ ] N/A
U1.15	Autonomous Signalling Sequence?		N/A		
U1.16	Sequence Response?		N/A		
U1.22	Recognition Time?	U1.9	M	4.6.1.9	[ ] Yes [ ] No
U1.23	Enable Autonomous Acknowledge?		N/A		
U1.24	Disable Autonomous Acknowledge?		N/A		

Information Elements: Pulse Types

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.30	pulse type: Pulsed normal polarity?		N/A		
U1.31	pulse type: Pulsed reversed polarity?		N/A		
U1.32	pulse type: Pulsed battery on c-wire?		N/A		
U1.33	pulse type: Pulsed on hook?		N/A		
U1.34	pulse type: Pulsed reduced battery?		N/A		
U1.35	pulse type: Pulsed no battery?		M	4.6.1.6	[ ] Yes [ ] No
U1.36	pulse type: Initial ring?		M	4.6.1.6	[ ] Yes [ ] No
U1.37	pulse type: Meter pulse?	F1 NOT F1	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.38	pulse type: 50 Hz pulse?		N/A		
U1.39	pulse type: Register recall?	F3 NOT F3	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.40	pulse type: Pulsed off hook?		N/A		
U1.41	pulse type: Pulsed b-wire connected to earth?		N/A		
U1.42	pulse type: Earth loop pulse?		N/A		
U1.43	pulse type: Pulsed b-wire connected to battery?		N/A		
U1.44	pulse type: Pulsed a-wire connected to earth?		N/A		
U1.45	pulse type: Pulsed a-wire connected to battery?		N/A		
U1.46	pulse type: Pulsed c-wire connected to earth?		N/A		
U1.47	pulse type: Pulsed c-wire disconnected?		N/A		
U1.48	pulse type: Pulsed normal battery?		N/A		
U1.49	pulse type: Pulsed a-wire disconnected?		N/A		
U1.50	pulse type: Pulsed b-wire disconnected?		N/A		

U1.91	suppression indicator?		M	4.6.1.6	[ ] Yes [ ] No
U1.92	acknowledge request indicator?		M	4.6.1.6	[ ] Yes [ ] No
U1.93	suppression indicator?		N/A		
U1.94	acknowledge request indicator?		N/A		
U1.95	digit acknowledge request indicator?		M	4.6.1.8	[ ] Yes [ ] No

Information Elements: Steady Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.51	Steady signal: Normal polarity?		M	4.6.1.7	[ ] Yes [ ] No
U1.52	Steady signal: Reversed polarity?		M	4.6.1.7	[ ] Yes [ ] No
U1.53	Steady signal: Battery on c-wire?		N/A		
U1.54	Steady signal: No battery on c-wire?		N/A		
U1.55	Steady signal: Off hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.56	Steady signal: On hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.57	Steady signal: Battery on a-wire?		N/A		
U1.58	Steady signal: A-wire on earth?		N/A		
U1.59	Steady signal: No battery on a-wire?		N/A		
U1.60	Steady signal: No battery on b-wire?		N/A		
U1.61	Steady signal: Reduced battery?		M	4.6.1.7	[ ] Yes [ ] No
U1.62	Steady signal: No battery?		N/A		
U1.63	Steady signal: Alternate reduced power/no power?		N/A		
U1.64	Steady signal: Normal Battery?		N/A		
U1.65	Steady signal: Stop ringing?		N/A		
U1.66	Steady signal: Start pilot frequency?		N/A		
U1.67	Steady signal: Stop pilot frequency?		N/A		
U1.68	Steady signal: Low impedance on b-wire?		N/A		
U1.69	Steady signal: B-wire connected to earth?		N/A		
U1.70	Steady signal: B-wire disconnected from earth?		N/A		
U1.71	Steady signal: Normal battery on b-wire?		N/A		
U1.72	Steady signal: Low loop impedance?		N/A		
U1.73	Steady signal: High loop impedance?		N/A		
U1.74	Steady signal: Anomalous loop impedance?		N/A		
U1.75	Steady signal: A-wire disconnected from earth?		N/A		
U1.76	Steady signal: C-wire on earth?		N/A		
U1.77	Steady signal: C-wire disconnected from earth?		N/A		

Error Handling

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
EH1	Unrecognised Information Elements?		M	4.6.2.1	[ ] Yes [ ] No
EH2	IE Content Error?		M	4.6.2.1	[ ] Yes [ ] No

Autonomous Actions

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
AAL1	Whilst a Pulsed Signal is being applied - Receipt of a line or control primitive?		M	6.2.3.1.1	[ ] Yes [ ] No
AAL2.1	Whilst a Pulsed Signal is being applied - Receipt of a management primitive : storage?		O.1	6.2.3.1.2 (a)	[ ] Yes [ ] No
AAL2.2	Whilst a Pulsed Signal is being applied - Receipt of a management primitive : truncation?		O.1	6.2.3.1.2 (b)	[ ] Yes [ ] No
AAL3	Whilst a Pulsed Signal is being applied - Receipt of External Analogue Signal?		M	6.2.3.1.3	[ ] Yes [ ] No
AAL4	Whilst a Pulsed Signal is being applied - Receipt of New Incoming Call?		M	6.2.3.1.4	[ ] Yes [ ] No
AAL5	Completion / truncation of a Pulsed Signal : Application of Steady Signal?		M	6.2.3.2.1	[ ] Yes [ ] No
AAL6	Completion / truncation of a Pulsed Signal : Stored primitives?		M	6.2.3.2.2	[ ] Yes [ ] No
AAL7	Receipt of call finished Primitive : DCPI = Received?		M	6.2.3.3.1	[ ] Yes [ ] No
AAL8	Receipt of call finished Primitive : DCPI = Not Received?		M	6.2.3.3.2	[ ] Yes [ ] No
AAL9	Receipt of call finished Primitive : DCPI = Not Received; CPE applying ON-HOOK; Send DISCONNECT CLEAR?		O	6.2.3.3.2 (a) (II)	[ ] Yes [ ] No
AAL10	Receipt of Restart Mgmt Primitive : DCPI = Received?		M	6.2.3.4.1	[ ] Yes [ ] No
AAL11	Receipt of Restart Mgmt Primitive : DCPI = Not Received?		M	6.2.3.4.2	[ ] Yes [ ] No
AAL12	Receipt of Restart Mgmt Primitive : DCPI = Not Received; CPE applying ON-HOOK; Send DISCONNECT CLEAR?		O	6.2.3.4.2 (a) (II)	[ ] Yes [ ] No

AAL13	Receipt of Block Mgmt Primitive : DCPI = Received?		M	6.2.3.5.1	[ ] Yes [ ] No
AAL14	Receipt of Block Mgmt Primitive : DCPI = Not Received?		M	6.2.3.5.2	[ ] Yes [ ] No
AAL15	Receipt of Block Mgmt Primitive : DCPI = Not Received; CPE applying ON-HOOK; Send DISCONNECT CLEAR		O	6.2.3.5.2 (a) (I)	[ ] Yes [ ] No
AAL16	Receipt of DIGITS?		M	6.2.3.6.1	[ ] Yes [ ] No
AAL17	Receipt of OFF-HOOK during application of CALL ARRIVAL INDICATION?		M	6.2.3.6.2	[ ] Yes [ ] No
AAL18	Receipt of External 30kΩ Signal?	F2 NOT F2	M N/A	6.2.3.6.3	[ ] Yes [ ] No [ ] N/A
AAL19	Receipt of Steady Signal?		M	6.2.3.6.4	[ ] Yes [ ] No
AAL20	Receipt of call arrival indication?		M	6.2.3.6.5	[ ] Yes [ ] No
AAL21	Additional AN Resources Required?		M	6.2.3.6.6	[ ] Yes [ ] No
AAL22	Receipt of Unblock whilst port is blocked?		M	6.2.3.6.7	[ ] Yes [ ] No
AAL23	Receipt of REGISTER RECALL or HOOK FLASH whilst awaiting an LE acknowledge?		M	6.2.3.6.8	[ ] Yes [ ] No
AAL24	Setting of DCPI?		M	6.2.3.6.9	[ ] Yes [ ] No
AAL25	Receipt of Unrecognised Primitives?		M	6.2.3.7.1	[ ] Yes [ ] No
AAL26	Receipt of Unexpected Primitives?		M	6.2.3.7.2	[ ] Yes [ ] No
O.1 = Support of at least one of these items is required, while only one can be active.					

Message/Information Element Summary

Messages From LE

First of 3 tables - Messages from LE

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing	Recognition Time
Establish	N/A	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Signal	N/A	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	[ ] Yes [ ] No

Second of 3 tables - Messages from LE

IE / Message	Pulse Notification	Pulsed Signal			
		Pulsed No Battery	Initial Ring	Meter Pulse	Register Recall
Establish	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	N/A	[ ] Yes [ ] No	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

Third of 3 tables - Messages from LE

IE / Message	Steady Signal				
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery
Establish	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	[ ] Yes [ ] No
Signal	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

Messages To LE

First of 3 tables - Messages to LE

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing	Recognition Time
Establish	N/A	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A	N/A

Second of 3 tables - Messages to LE

IE / Message	Pulse Notification	Pulsed Signal			
		Pulsed No Battery	Initial Ring	Meter Pulse	Register Recall
Establish	N/A	N/A	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	N/A
Signal	[ ] Yes [ ] No	N/A	N/A	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

Third of 3 Tables - Messages to LE

IE / Message	Steady Signal				
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery
Establish	N/A	N/A	[ ] Yes [ ] No	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	N/A
Signal	N/A	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A
Protocol Parameter	N/A	N/A	N/A	N/A	N/A

EARTH CALLING PBX

Main Optional Features

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
F1	SPM?		O	7.2.1	[ ] Yes [ ] No
F2	30 kΩ Loop?		O	7.2.1	[ ] Yes [ ] No
F3	Hook Flash?		O	7.2.1	[ ] Yes [ ] No

Analogue Line Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
ASE1	ON-HOOK?		M	7.2.1	[ ] Yes [ ] No
ASE2	OFF-HOOK?		M	7.2.1	[ ] Yes [ ] No
ASE3	30 kΩ LOOP?	F2 NOT F2	M N/A	7.2.1	[ ] Yes [ ] No [ ] N/A
ASE4	DIGITS?		M	7.2.1	[ ] Yes [ ] No
ASE5	REGISTER RECALL?		M	7.2.1	[ ] Yes [ ] No
ASE6	NORMAL POWER FEED?		M	7.2.1	[ ] Yes [ ] No
ASE7	REVERSED POWER FEED?		M	7.2.1	[ ] Yes [ ] No
ASE8	DISCONNECT CLEAR?		M	7.2.1	[ ] Yes [ ] No
ASE9	PARKED LINE FEED?		M	7.2.1	[ ] Yes [ ] No
ASE10	CALL ARRIVAL INDICATION?		M	7.2.1	[ ] Yes [ ] No
ASE11	SPM?	F1 NOT F1	M N/A	7.2.1	[ ] Yes [ ] No [ ] N/A
ASE12	HOOK FLASH?	F3 NOT F3	M N/A	7.2.1	[ ] Yes [ ] No [ ] N/A
ASE13	IDLE LINE FEED?		M	7.2.1	[ ] Yes [ ] No
ASE14	EC-PBX SEIZE?		M	7.2.1	[ ] Yes [ ] No

PSTN Protocol

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
PP1	Equivalent functionality to that specified for the following, when considered from the external interfaces [A and D]:		M		[ ] Yes [ ] No
	Analogue Port Process?			3.1.1 & 7.2	
	AN_PSTN User Port Process?			3.1.2	
	AN_PSTN Protocol Process?			3.1.3	

Protocol Data Units

Within ETS 300 324-2 the status of some Protocol Data Unit items is shown as being conditional on “MX.2” which the ETS states is provided by the national specification. In the case of the UK, the status of those items conditional on MX.2 is provided in the clauses below.

Messages

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.9	PROTOCOL PARAMETER?		N/A		

Information Elements General

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.12	Pulse Notification?		M	4.6.1.1	[ ] Yes [ ] No
U1.13	Line Information?	F2 NOT F2	M N/A	4.6.1.2	[ ] Yes [ ] No [ ] N/A
U1.15	Autonomous Signalling Sequence?		N/A		
U1.16	Sequence Response?		N/A		
U1.22	Recognition Time?		N/A		
U1.23	Enable Autonomous Acknowledge?		N/A		
U1.24	Disable Autonomous Acknowledge?		N/A		

Information Elements: Pulse Types

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.30	pulse type: Pulsed normal polarity?		N/A		
U1.31	pulse type: Pulsed reversed polarity?		N/A		
U1.32	pulse type: Pulsed battery on c-wire?		N/A		
U1.33	pulse type: Pulsed on hook?		N/A		
U1.34	pulse type: Pulsed reduced battery?		N/A		
U1.35	pulse type: Pulsed no battery?		M	4.6.1.6	[ ] Yes [ ] No
U1.36	pulse type: Initial ring?		N/A		
U1.37	pulse type: Meter pulse?	F1 NOT F1	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.38	pulse type: 50 Hz pulse?		N/A		
U1.39	pulse type: Register recall?	F3 NOT F3	M N/A	4.6.1.6	[ ] Yes [ ] No [ ] N/A
U1.40	pulse type: Pulsed off hook?		N/A		
U1.41	pulse type: Pulsed b-wire connected to earth?		N/A		
U1.42	pulse type: Earth loop pulse?		N/A		
U1.43	pulse type: Pulsed b-wire connected to battery?		N/A		
U1.44	pulse type: Pulsed a-wire connected to earth?		N/A		
U1.45	pulse type: Pulsed a-wire connected to battery?		N/A		
U1.46	pulse type: Pulsed c-wire connected to earth?		N/A		
U1.47	pulse type: Pulsed c-wire disconnected?		N/A		
U1.48	pulse type: Pulsed normal battery?		N/A		
U1.49	pulse type: Pulsed a-wire disconnected?		N/A		
U1.50	pulse type: Pulsed b-wire disconnected?		N/A		

U1.91	suppression indicator?		M	4.6.1.6	[ ] Yes [ ] No
U1.92	acknowledge request indicator?		M	4.6.1.6	[ ] Yes [ ] No
U1.93	suppression indicator?		N/A		
U1.94	acknowledge request indicator?		N/A		
U1.95	digit acknowledge request indicator?		M	4.6.1.8	[ ] Yes [ ] No

Information Elements: Steady Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.51	Steady signal: Normal polarity?		M	4.6.1.7	[ ] Yes [ ] No
U1.52	Steady signal: Reversed polarity?		M	4.6.1.7	[ ] Yes [ ] No
U1.53	Steady signal: Battery on c-wire?		N/A		
U1.54	Steady signal: No battery on c-wire?		N/A		
U1.55	Steady signal: Off hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.56	Steady signal: On hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.57	Steady signal: Battery on a-wire?		N/A		
U1.58	Steady signal: A-wire on earth?		N/A		
U1.59	Steady signal: No battery on a-wire?		N/A		
U1.60	Steady signal: No battery on b-wire?		N/A		
U1.61	Steady signal: Reduced battery?		M	4. 6.1.7	[ ] Yes [ ] No
U1.62	Steady signal: No battery?		N/A		
U1.63	Steady signal: Alternate reduced power/no power?		N/A		
U1.64	Steady signal: Normal Battery?		N/A		
U1.65	Steady signal: Stop ringing?		N/A		
U1.66	Steady signal: Start pilot frequency?		N/A		
U1.67	Steady signal: Stop pilot frequency?		N/A		
U1.68	Steady signal: Low impedance on b-wire?		N/A		
U1.69	Steady signal: B-wire connected to earth?		O	4. 6.1.7	[ ] Yes [ ] No
U1.70	Steady signal: B-wire disconnected from earth?		N/A		
U1.71	Steady signal: Normal battery on b-wire?		N/A		
U1.72	Steady signal: Low loop impedance?		N/A		
U1.73	Steady signal: High loop impedance?		N/A		
U1.74	Steady signal: Anomalous loop impedance?		N/A		
U1.75	Steady signal: A-wire disconnected from earth?		N/A		
U1.76	Steady signal: C-wire on earth?		N/A		
U1.77	Steady signal: C-wire disconnected from earth?		N/A		

Error Handling

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
EH1	Unrecognised Information Elements?		M	4.6.2.1	[ ] Yes [ ] No
EH2	IE Content Error?		M	4.6.2.1	[ ] Yes [ ] No

Autonomous Actions

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
AAE1	PBX Signal Checking on receipt of call finished / Restart / Block primitive?		O	7.2.3.3, 7.2.3.4 & 7.2.3.5	[ ] Yes [ ] No
AAE2	Whilst a Pulsed Signal is being applied - Receipt of a line or control primitive?		M	7.2.3.1.1	[ ] Yes [ ] No
AAE3.1	Whilst a Pulsed Signal is being applied - Receipt of a management primitive : storage?		O.1	7.2.3.1.2 (a)	[ ] Yes [ ] No
AAE3.2	Whilst a Pulsed Signal is being applied - Receipt of a management primitive : truncation?		O.1	7.2.3.1.2 (b)	[ ] Yes [ ] No
AAE4	Whilst a Pulsed Signal is being applied - Receipt of External Analogue Signal?		M	7.2.3.1.3	[ ] Yes [ ] No
AAE5	Whilst a Pulsed Signal is being applied - Receipt of New Incoming Call?		M	7.2.3.1.4	[ ] Yes [ ] No
AAE6	When a Pulsed Signal completes : application of Steady Signal?		M	7.2.3.2.1	[ ] Yes [ ] No
AAE7	When a Pulsed Signal completes : Handling of stored primitives?		M	7.2.3.2.2	[ ] Yes [ ] No
AAE8.1	Receipt of call finished Primitive : Signal from PBX not checked?	AAE1 NOT AAE1	N/A M	7.2.3.3.1	[ ] N/A [ ] Yes [ ] No
AAE8.2	Receipt of call finished Primitive : Signal from PBX checked?	AAE1 NOT AAE1	M N/A	7.2.3.3.2	[ ] Yes [ ] No [ ] N/A
AAE9.1	Receipt of Restart Mgmt Primitive : Signal from PBX not checked?	AAE1 NOT AAE1	N/A M	7.2.3.4.1	[ ] N/A [ ] Yes [ ] No
AAE9.2	Receipt of Restart Mgmt Primitive : Signal from PBX checked?	AAE1 NOT AAE1	M N/A	7.2.3.4.2	[ ] Yes [ ] No [ ] N/A
AAE10.1	Receipt of Block Mgmt Primitive : Signal from PBX not checked?	AAE1 NOT AAE1	N/A M	7.2.3.5.1	[ ] N/A [ ] Yes [ ] No
AAE10.2	Receipt of Block Mgmt Primitive : Signal from PBX checked?	AAE1 NOT AAE1	M N/A	7.2.3.5.2	[ ] Yes [ ] No [ ] N/A
AAE11.1	Receipt of EC-PBX Seize - Apply NORMAL POWER FEED autonomously?		O.2	7.2.3.6.1	[ ] Yes [ ] No

AAE11.2	Receipt of EC-PBX Seize - Apply NORMAL POWER FEED autonomously; receipt of EC-PBX SEIZE on timer expiry: send faulty seize?	AE11.1 NOT AAE11.1	O N/A	7.2.3.6.1 (b) (I)	[ ] Yes [ ] No [ ] N/A
AAE11.3	Receipt of EC-PBX Seize - Apply NORMAL POWER FEED autonomously; receipt of ON-HOOK on timer expiry: send faulty seize?	AE11.1 NOT AAE11.1	O N/A	7.2.3.6.1 (c) (I)	[ ] Yes [ ] No [ ] N/A
AAE12.1	Receipt of EC-PBX Seize - Apply NORMAL POWER FEED on receipt of LE acknowledgement?		O.2	7.2.3.6.2	[ ] Yes [ ] No
AAE12.2	Receipt of EC-PBX Seize - Apply NORMAL POWER FEED on receipt of LE acknowledgement; receipt of EC-PBX on timer expiry: send faulty seize?	AE12.1 NOT AAE12.1	O N/A	7.2.3.6.2 (b) (I)	[ ] Yes [ ] No [ ] N/A
AAE12.3	Receipt of EC-PBX Seize - Apply NORMAL POWER FEED on receipt of LE acknowledgement; receipt of ON-HOOK on timer expiry: send faulty seize?	AE12.1 NOT AAE12.1	O N/A	7.2.3.6.2 (c) (I)	[ ] Yes [ ] No [ ] N/A
AAE13.1	Receipt of Unblock management primitive : Signal from PBX not checked?	AAE1 NOT AAE1	N/A M	7.2.3.7.1	[ ] N/A [ ] Yes [ ] No
AAE13.2	Receipt of Unblock management primitive : Signal from PBX checked?	AAE1 NOT AAE1	M N/A	7.2.3.7.2	[ ] Yes [ ] No [ ] N/A
AAE14	Receipt of DIGITS?		M	7.2.3.8.1	[ ] Yes [ ] No
AAE15	Receipt of OFF-HOOK during CALL ARRIVAL INDICATION?		M	7.2.3.8.2	[ ] Yes [ ] No
AAE16	Receipt of External 30kΩ Signal?	F2 NOT F2	M N/A	7.2.3.8.3	[ ] Yes [ ] No [ ] N/A
AAE17	Receipt of Steady Signal?		M	7.2.3.8.4	[ ] Yes [ ] No
AAE18	Receipt of call arrival indication?		M	7.2.3.8.5	[ ] Yes [ ] No
AAE19	Additional AN Resources Required?		M	7.2.3.8.6	[ ] Yes [ ] No
AAE20	Receipt of REGISTER RECALL or HOOKFLASH?		M	7.2.3.8.7	[ ] Yes [ ] No
AAE21	Setting of Disconnect Clear Primitive Indicator?		M	7.2.3.8.8	[ ] Yes [ ] No
AAE22	Receipt of Unrecognised Primitives?		M	7.2.3.9.1	[ ] Yes [ ] No
AAE23	Receipt of Unexpected Primitives?		M	7.2.3.9.2	[ ] Yes [ ] No

O.1 = Support of at least one of these items is required, while only one can be active.
O.2 = Support of at least one of these items is required, while only one can be active.

Message/Information Element Summary

Messages From LE

First of 3 tables - Messages from LE

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing
Establish	N/A	N/A	N/A	N/A	[ ] Yes [ ] No
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Signal	N/A	N/A	N/A	N/A	[ ] Yes [ ] No
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A

Second of 3 tables - Messages from LE

IE / Message	Pulse Notification	Pulsed Signal		
		Pulsed No Battery	Meter Pulse	Register Recall
Establish	N/A	N/A	N/A	N/A
Establish Ack	N/A	[ ] Yes [ ] No	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A

Third of 3 tables - Messages from LE

IE / Message	Steady Signal					
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery	B-wire Connected to
Establish	[ ] Yes [ ] No	N/A	N/A	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Signal	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A	[ ] Yes [ ] No	N/A
Disconnect	N/A	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A	N/A

Messages To LE

First of 3 tables - Messages to LE

IE / Message	None	Digit Signal	Resource Unavailable	Line Information	Cadenced Ringing
Establish	N/A	N/A	N/A	[ ] Yes [ ] No	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A

Second of 3 tables - Messages to LE

IE / Message	Pulse Notification	Pulsed Signal		
		Pulsed No Battery	Meter Pulse	Register Recall
Establish	N/A	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A
Signal	[ ] Yes [ ] No	N/A	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A

Third of 3 Tables - Messages to LE

IE / Message	Steady Signal					
	Normal Polarity	Reversed Polarity	Off Hook	On Hook	Reduced Battery	B-Wire Connected to Earth
Establish	N/A	N/A	[ ] Yes [ ] No	N/A	N/A	N/A
Establish Ack	N/A	N/A	N/A	N/A	N/A	N/A
Signal	N/A	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A	N/A	N/A

DDI PBX

Main Optional Features

There are no main optional features for the DDI portion of the protocol.

Analogue Line Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
ASDD1	DDI NORMAL POLARITY?		M	8.2.1	[ ] Yes [ ] No
ASDD2	DDI REVERSED POLARITY?		M	8.2.1	[ ] Yes [ ] No
ASDD3	DDI NO BATTERY?		M	8.2.1	[ ] Yes [ ] No
ASDD4	DDI SEIZE?		M	8.2.1	[ ] Yes [ ] No
ASDD5	DDI DIGIT?		M	8.2.1	[ ] Yes [ ] No
ASDD6	DDI EXCHANGE RELEASED?		M	8.2.1	[ ] Yes [ ] No
ASDD7	DDI IDLE?		M	8.2.1	[ ] Yes [ ] No

PSTN Protocol

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
PP1	Equivalent functionality to that specified for the following, when considered from the external interfaces [A and D]:		M		[ ] Yes [ ] No
	Analogue Port Process?			3.1.1 & 8.2	
	AN_PSTN User Port Process?			3.1.2	
	AN_PSTN Protocol Process?			3.1.3	

Protocol Data Units

Within ETS 300 324-2 the status of some Protocol Data Unit items is shown as being conditional on “MX.2” which the ETS states is provided by the national specification. In the case of the UK, the status of those items conditional on MX.2 is provided in the clauses below.

Messages

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.9	PROTOCOL PARAMETER?		N/A		

Information Elements General

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.12	Pulse Notification?		M	4.6.1.1	[ ] Yes [ ] No
U1.13	Line Information?		N/A		
U1.15	Autonomous Signalling Sequence?		N/A		
U1.16	Sequence Response?		N/A		
U1.22	Recognition Time?		N/A		
U1.23	Enable Autonomous Acknowledge?		N/A		
U1.24	Disable Autonomous Acknowledge?		N/A		

Information Elements: Pulse Types

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.30	pulse type: Pulsed normal polarity?		N/A		
U1.31	pulse type: Pulsed reversed polarity?		N/A		
U1.32	pulse type: Pulsed battery on c-wire?		N/A		
U1.33	pulse type: Pulsed on hook?		M	4.6.1.6	[ ] Yes [ ] No
U1.34	pulse type: Pulsed reduced battery?		N/A		
U1.35	pulse type: Pulsed no battery?		N/A		
U1.36	pulse type: Initial ring?		N/A		
U1.37	pulse type: Meter pulse?		N/A		
U1.38	pulse type: 50 Hz pulse?		N/A		
U1.39	pulse type: Register recall?		N/A		
U1.40	pulse type: Pulsed off hook?		N/A		
U1.41	pulse type: Pulsed b-wire connected to earth?		N/A		
U1.42	pulse type: Earth loop pulse?		N/A		
U1.43	pulse type: Pulsed b-wire connected to battery?		N/A		
U1.44	pulse type: Pulsed a-wire connected to earth?		N/A		
U1.45	pulse type: Pulsed a-wire connected to battery?		N/A		
U1.46	pulse type: Pulsed c-wire connected to earth?		N/A		
U1.47	pulse type: Pulsed c-wire disconnected?		N/A		
U1.48	pulse type: Pulsed normal battery?		N/A		
U1.49	pulse type: Pulsed a-wire disconnected?		N/A		
U1.50	pulse type: Pulsed b-wire disconnected?		N/A		

U1.91	suppression indicator?		M	4.6.1.6	[ ] Yes [ ] No
U1.92	acknowledge request indicator?		M	4.6.1.6	[ ] Yes [ ] No
U1.93	suppression indicator?		N/A		
U1.94	acknowledge request indicator?		N/A		
U1.95	digit acknowledge request indicator?		M	4.6.1.8	[ ] Yes [ ] No

Information Elements: Steady Signals

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
U1.51	Steady signal: Normal polarity?		M	4.6.1.7	[ ] Yes [ ] No
U1.52	Steady signal: Reversed polarity?		M	4.6.1.7	[ ] Yes [ ] No
U1.53	Steady signal: Battery on c-wire?		N/A		
U1.54	Steady signal: No battery on c-wire?		N/A		
U1.55	Steady signal: Off hook?		M	4.6.1.7	[ ] Yes [ ] No
U1.56	Steady signal: On hook?		N/A		
U1.57	Steady signal: Battery on a-wire?		N/A		
U1.58	Steady signal: A-wire on earth?		N/A		
U1.59	Steady signal: No battery on a-wire?		N/A		
U1.60	Steady signal: No battery on b-wire?		N/A		
U1.61	Steady signal: Reduced battery?		N/A		
U1.62	Steady signal: No battery?		M	4.6.1.7	[ ] Yes [ ] No
U1.63	Steady signal: Alternate reduced power/no power?		N/A		
U1.64	Steady signal: Normal Battery?		N/A		
U1.65	Steady signal: Stop ringing?		N/A		
U1.66	Steady signal: Start pilot frequency?		N/A		
U1.67	Steady signal: Stop pilot frequency?		N/A		
U1.68	Steady signal: Low impedance on b-wire?		N/A		
U1.69	Steady signal: B-wire connected to earth?		N/A		
U1.70	Steady signal: B-wire disconnected from earth?		N/A		
U1.71	Steady signal: Normal battery on b-wire?		N/A		
U1.72	Steady signal: Low loop impedance?		N/A		
U1.73	Steady signal: High loop impedance?		N/A		
U1.74	Steady signal: Anomalous loop impedance?		N/A		
U1.75	Steady signal: A-wire disconnected from earth?		N/A		
U1.76	Steady signal: C-wire on earth?		N/A		
U1.77	Steady signal: C-wire disconnected from earth?		N/A		

Error Handling

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
EH1	Unrecognised Information Elements?		M	4.6.2.1	[ ] Yes [ ] No
EH2	IE Content Error?		M	4.6.2.1	[ ] Yes [ ] No

Autonomous Actions

Index	Protocol Capability Does the implementation support..	Conditions for status	Status	Reference [1]	Support
AADD1	Whilst a DDI EXCHANGE RELEASED Signal is being applied - Receipt of a line or control primitive?		M	8.2.3.1.1	[ ] Yes [ ] No
AADD2	Whilst a DDI EXCHANGE RELEASED Signal is being applied - Receipt of a management primitive?		M	8.2.3.1.2	[ ] Yes [ ] No
AADD3	Whilst a DDI EXCHANGE RELEASED Signal is being applied - Receipt of any External Analogue Signal?		M	8.2.3.1.3	[ ] Yes [ ] No
AADD4	Whilst a DDI EXCHANGE RELEASED Signal is being applied - Receipt of New Incoming Call?		M	8.2.3.1.4	[ ] Yes [ ] No
AADD5	Completion of DDI EXCHANGE RELEASED?		M	8.2.3.2	[ ] Yes [ ] No
AADD6	Receipt of call finished Primitive : DDI SEIZE being applied?		M	8.2.3.3.1	[ ] Yes [ ] No
AADD7	Receipt of call finished Primitive : DDI IDLE being applied?		M	8.2.3.3.2	[ ] Yes [ ] No
AADD8	Receipt of Restart Mgmt Primitive : DDI SEIZE being applied?		M	8.2.3.4.1	[ ] Yes [ ] No
AADD9	Receipt of Restart Mgmt Primitive : DDI IDLE being applied?		M	8.2.3.4.2	[ ] Yes [ ] No
AADD10	Receipt of Block Mgmt Primitive : DDI SEIZE being applied?		M	8.2.3.5.1	[ ] Yes [ ] No
AADD11	Receipt of Block Mgmt Primitive : DDI IDLE being applied?		M	8.2.3.5.2	[ ] Yes [ ] No
AADD12	Receipt of DDI Digits?		M	8.2.3.6.1	[ ] Yes [ ] No
AADD13	Receipt of DDI Reversed Polarity whilst DIGITS are being sent?		M	8.2.3.6.2	[ ] Yes [ ] No
AADD14	Receipt of DDI Reversed Polarity signal in the free state?		M	8.2.3.6.3	[ ] Yes [ ] No
AADD15	Additional AN resources required?		M	8.2.3.6.4	[ ] Yes [ ] No

AADD16	Receipt of Unblock whilst port is blocked?		M	8.2.3.6.5	[ ] Yes [ ] No
AADD17	Receipt of Unrecognised Primitives?		M	8.2.3.7.1	[ ] Yes [ ] No
AADD18	Receipt of Unexpected Primitives?		M	8.2.3.7.2	[ ] Yes [ ] No

Message/Information Element Summary

Messages From LE

First of 2 tables - Messages from LE

IE / Message	None	Digit Signal	Resource Unavailable	Pulse Notification	Pulsed Signal
					Pulsed On Hook
Establish	N/A	N/A	N/A	N/A	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Signal	N/A	[ ] Yes [ ] No	N/A	N/A	[ ] Yes [ ] No
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A

Second of 2 tables - Messages from LE

IE / Message	Steady Signal			
	Normal Polarity	Reversed Polarity	Off Hook	No Battery
Establish	N/A	N/A	[ ] Yes [ ] No	N/A
Establish Ack	N/A	N/A	N/A	N/A
Signal	N/A	N/A	N/A	N/A
Disconnect	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A

Messages To LE

First of 2 tables - Messages to LE

IE / Message	None	Digit Signal	Resource Unavailable	Pulse Notification	Pulsed Signal
					Pulsed On Hook
Establish	N/A	N/A	N/A	N/A	N/A
Establish Ack	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Signal	N/A	N/A	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A
Disconnect	[ ] Yes [ ] No	N/A	N/A	N/A	N/A
Disconnect Complete	[ ] Yes [ ] No	N/A	N/A	N/A	N/A

Second of 2 Tables - Messages to LE

IE / Message	Steady Signal			
	Normal Polarity	Reversed Polarity	Off Hook	No Battery
Establish	N/A	N/A	N/A	[ ] Yes [ ] No
Establish Ack	N/A	N/A	N/A	N/A
Signal	[ ] Yes [ ] No	[ ] Yes [ ] No	N/A	[ ] Yes [ ] No
Disconnect	N/A	N/A	N/A	N/A
Disconnect Complete	N/A	N/A	N/A	N/A

Annex A (Informative): Instructions for Completing the PICS Proforma

A.1 Identification of the Implementation

"Identification of the Implementation Under Test (IUT) and the system in which it resides (the System Under Test (SUT)) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier and client information should both be filled out if they are different.

A person who can answer queries regarding information supplied in the PICS should be named as the contact person.

The SCS as defined in ISO/IEC 9646-1 [4] is a document supplied by the client or product supplier that summarises which OSI International Standards, ITU-T (CCITT) Recommendations, ETSs or other standards are implemented and to which conformance is claimed. The PICS/SCS subclause should describe the relationship of the PICS to the SCS." [3]

A.2 Global Statement of Conformance

"If the answer to the statement in this subclause is "Yes", all subsequent subclauses shall be completed to facilitate selection of test cases for optional functions.

If the answer to the statement in this subclause is "No", all subsequent subclauses should be completed, and all non-supported mandatory capabilities shall be identified and explained." [3]

A.3 Summary

At a high level, this subclause compactly describes the high level functionality supported by the system. Conditions for status and references are not specified and the subsequent tables must be consulted for that information.

A.4 Main Optional Features

Each question in this subclause refers to a major optional function of the protocol which requires clarification in the PICS. Answering "Yes" to a particular question states that the implementation supports all of the mandatory procedures for that optional function defined in the referenced clauses of the standard. Answering "No" to a particular question in this clause states that the implementation does not support that optional function of the protocol.

A.5 Analogue Signals

Indicating support for an item in this subclause states that an electrical condition relating to the named Analogue Signal is supported by an Access Network. The precise electrical characteristics are a matter of bilateral agreement between the Access Network supplier and the Network Operator. Please refer to Annexes B through F, inclusive, for details relating to specific line types.

A.6 Protocol

“Indicating support for an item in this subclause states that the implementation has the capability to support the protocol provisions that may exist.” [3]

A.7 Protocol Data Units

“Indicating support for an item in this subclause states that the implementation has the capability to support the protocol provisions that may exist.” [3]

A.8 Message/Information Element Summary

These tables, like the summary subclauses, deviate from the typical form of a PICS document in that they summarise, without regards for optionality, the relations of messages to information elements supported, as well as functionality.

Note that any field marked with N/A and is shaded, is a message/information/direction combination that is not possible based on this specification, but has been included for completeness.

A.9 Message Sequence Charts

Neither the services provided nor the signalling sequences used to perform them are standardised in the UK.

The precise services and signalling sequences are a matter of bilateral agreement between the Network Operator and the Local Exchange Supplier. Please refer to Annex B to F for details regarding specific line types.

Typically, the bilateral agreement is based on Message Sequence Charts (MSCs) and a number of such MSCs are used for the different line types. Please refer to clauses 5 to 8 of SSPE/SPEC/001-1 [1].

Annex B (Informative): Common Characteristics

The information contained in this annex will reflect the Network Operator and Equipment Supplier implementation details as related to the V5 interface.

B.1 Ring Cadence/V5 Cadenced Ringing Type

In addition to the electrical characteristics of the Call Arrival Indication it is also necessary to provide details of the ringing cadence and the relationship of each cadence to the coding of the V5 Cadenced Ringing Type Field in the Cadenced Ringing Information Element. Table B.1. is provided below to enable the ringing cadence details to be recorded.

Bits 7 6 5 4 3 2 1	Definition	Meaning
0 0 0 0 0 0 0	0.4 sec ON, 0.2 sec OFF 0.4 sec ON, 2.0 sec OFF which may be preceded by an initial burst of 0.35 sec ON, 0.22 sec OFF	Normal ringing cadence.
0 0 0 0 0 0 1		
0 0 0 0 0 1 0		
0 0 0 0 0 1 1		
0 0 0 0 1 0 0		
0 0 0 0 1 0 1		
0 0 0 0 1 1 0		
0 0 0 0 1 1 1		
0 0 0 1 0 0 0		
Etc.		

Table B.1. Cadenced Ringing Type Characteristics

B.2 Initial Ring Pulse Duration Type Definitions

In addition to the mapping of the ringing cadence to the coding of the V5 Cadenced Ringing Type Field, the meaning of the initial ring pulse duration type must also be defined. Table B.2. is provided below to enable the initial ring pulse duration type details to be recorded.

Bits 5 4 3 2 1	Definition	Meaning
0 0 0 0 0	0.4 sec ON	Pulse of normal ringing.
0 0 0 0 1	0.4 sec ON, 0.2 sec OFF	Pulse of normal ringing (including silence).
0 0 0 1 0		
0 0 0 1 1		
0 0 1 0 0		
0 0 1 0 1		
0 0 1 1 0		
Etc.		

Table B.2. Initial Ring Pulse Duration Type Characteristics

B.3 Pulse Reduced Battery Pulse Duration Type Definitions

The meaning of the pulsed reduced battery pulse duration type should also be stated to account for network operator specific requirements of pulse duration types above and beyond those defined. Table B.3. is provided below to enable the pulsed reduced battery pulse duration type details to be recorded.

Bits 5 4 3 2 1	Definition	Meaning
0 0 0 0 0	100 ms pulse	Typical pulsed reduced battery pulse duration.
0 0 0 0 1	100 ms pulse	See Section 4.6.1.6 [1]
0 0 0 1 0	200 ms pulse	See Section 4.6.1.6 [1]
0 0 0 1 1	300 ms pulse	See Section 4.6.1.6 [1]
0 0 1 0 0	400 ms pulse	See Section 4.6.1.6 [1]
0 0 1 0 1	500 ms pulse	See Section 4.6.1.6 [1]
0 0 1 1 0	600 ms pulse	See Section 4.6.1.6 [1]
0 0 1 1 1	700 ms pulse	See Section 4.6.1.6 [1]
0 1 0 0 0	800 ms pulse	See Section 4.6.1.6 [1]
0 1 0 0 1	900 ms pulse	See Section 4.6.1.6 [1]
0 1 0 1 0	1sec pulse	See Section 4.6.1.6 [1]
0 1 0 1 1	zero duration pulse	See Section 4.6.1.6 [1]
0 1 1 0 0		
0 1 1 0 1		
0 1 1 1 0		
0 1 1 1 1		
1 0 0 0 0		
1 0 0 0 1		
Etc.		

Table B.3. Pulse Duration Type Characteristics for Pulsed Reduced Battery

B.4 Pulsed No Battery Pulse Duration Type Definitions

The meaning of the pulsed no battery pulse duration type should also be stated to account for network operator specific requirements of pulse duration types above and beyond those defined. Table B.4 is provided below to enable the pulsed no battery pulse duration type details to be recorded.

Bits	Definition
5 4 3 2 1	(pulse duration)
0 0 0 0 0	Zero duration pulse
0 0 0 0 1	100 ms pulse
0 0 0 1 0	200 ms pulse
0 0 0 1 1	300 ms pulse
0 0 1 0 0	400 ms pulse
0 0 1 0 1	500 ms pulse
0 0 1 1 0	600 ms pulse
0 0 1 1 1	700 ms pulse
0 1 0 0 0	800 ms pulse
0 1 0 0 1	900 ms pulse
0 1 0 1 0	1sec pulse
0 1 1 0 0	
0 1 1 0 1	
0 1 1 1 0	
0 1 1 1 1	
Etc.	

Table B.4. Pulse Duration Type for Pulsed No Battery

B.5 Recognition Time Duration Types

The meaning of the recognition time duration types are also be stated to account for network operator specific requirements of pulse duration types above and beyond those defined. Table B.5. is provided below to enable those details to be recorded.

Bits 6 5 4 3 2 1	Meaning (Off-hook duration)
0 0 0 0 0 0	50 ms
0 0 0 0 0 1	100 ms
0 0 0 0 1 0	150 ms
0 0 0 0 1 1	200 ms
0 0 0 1 0 0	
0 0 0 1 0 1	
0 0 0 1 1 0	
Etc.	

Table B.5. Coding of Duration Type

B.6 Pulsed On-Hook Pulse Duration Type Definitions

The meaning of the recognition time duration types are also be stated to account for network operator specific requirements of pulse duration types above and beyond those defined. Table B.6. is provided below to enable those details to be recorded.

Bits 6 5 4 3 2 1	Meaning (Pulse duration)
0 0 0 0 0 0	1350 ms
0 0 0 0 0 1	
0 0 0 0 1 0	
0 0 0 0 1 1	
0 0 0 1 0 0	
Etc.	

Table B.6. Coding of Duration Type

Annex C (Informative): DEL Specific Characteristics

The information contained in this annex will reflect the Network Operator and Equipment Supplier implementation details as related to the V5 interface.

C.1 Electrical Characteristics of Analogue Signals

Table C.1. is provided below to enable the agreed characteristics to be recorded in the PICS. Reference may also be made within the table to Network Operator or Supplier specifications.

Analogue Signal Name	Electrical Characteristics	Reference to other Specifications
ON-HOOK		
OFF-HOOK		
30kΩ LOOP		
DIGITS		
REGISTER RECALL		
NORMAL POWER FEED		
REVERSED POWER FEED		
END OF CALL		
DISCONNECT CLEAR		
PARKED LINE FEED		
CALL ARRIVAL INDICATION		
INITIAL RING		
SPM PULSE		
HOOK FLASH		

Table C1. Electrical Characteristics of Analogue Line Signals

C.2 DEL Message Sequence Charts

Table B.7. is provided below to enable the agreed MSCs to be recorded in the PICS. Additional MSCs may be included in the bilateral agreement and is catered for in the table. All initial MSCs described in this table appear in the referenced subclauses of SSPE/SPEC/001-1 [1].

Index	**Message Sequence Charts** **Does the implementation support..**	**External Spec Reference**	**Support**	Comments
5.4.1.1	Successful Call (O/G Call including answer): 'A' end?		[ ] Yes [ ] No	
5.4.1.2	Successful Call (I/C Call including answer): 'B' end?		[ ] Yes [ ] No	
5.4.1.3	Alternative Successful Call (I/C Call including answer): 'B' end?		[ ] Yes [ ] No	
5.4.2.1	Call clearing ('A' end clears first, followed by 'B'): 'A' end?		[ ] Yes [ ] No	
5.4.2.2	Call clearing ('A' end clears first, followed by 'B'): 'B' end?		[ ] Yes [ ] No	
5.4.2.3	Call clearing ('B' end clears first, followed by 'A'): 'A' end?		[ ] Yes [ ] No	
5.4.2.4	Call clearing ('B' end clears first, followed by 'A'): 'B' end?		[ ] Yes [ ] No	
5.4.2.5	Alternative Call Clearing ('B' end clears first, followed by 'A'): 'A' end?		[ ] Yes [ ] No	
5.4.3.1	Unsuccessful Call (LE clears prior to answer): 'A' end?		[ ] Yes [ ] No	
5.4.3.2	Unsuccessful Call (LE clears prior to answer): 'B' end?		[ ] Yes [ ] No	
5.4.4.1	'B' end re-answers - 'B' end?		[ ] Yes [ ] No	
5.4.4.2.1	Re-ringing of held subscriber?		[ ] Yes [ ] No	
5.4.4.2.2	Alternative Method of Re-Ringing of Held Subscriber?		[ ] Yes [ ] No	
5.4.5.1	Data transmission during ringing 'B' end?		[ ] Yes [ ] No	
5.4.5.2	Data transmission prior to ringing 'B' end?		[ ] Yes [ ] No	
5.4.6.1	'A' clears, 'B' remains Off Hook - 'B' end?		[ ] Yes [ ] No	
5.4.6.2	'A' remains Off Hook after dialling insufficient digits?		[ ] Yes [ ] No	
5.4.7.1	Call collision - Outgoing call priority?		[ ] Yes [ ] No	

5.4.7.2	Subscriber 'B' clears then goes off hook resulting in collision between release of connection from LE and O/G call?		[ ] Yes [ ] No	
5.4.8.1	Register recall - 'A' or 'B' end?		[ ] Yes [ ] No	
5.4.8.2	Hook Flash - 'A' or 'B' end?		[ ] Yes [ ] No	
5.4.8.3	Call Forwarding Indication - 'B' end?		[ ] Yes [ ] No	
5.4.9.1	SPM delivery?		[ ] Yes [ ] No	
5.4.10.1	30kΩ loop activation?		[ ] Yes [ ] No	
5.4.10.2	30kΩ loop deactivation?		[ ] Yes [ ] No	
5.4.11.1	User port blocks and unblocks during call, user remains off-hook?		[ ] Yes [ ] No	
5.4.11.2	User port blocks and unblocks during SPM pulsing, new incoming call arrives before pulsing complete?		[ ] Yes [ ] No	
5.4.12.1	Off-hook during overload - ETSI Sequence?		[ ] Yes [ ] No	
5.4.12.2	Alternative 1 for Off-hook during overload?		[ ] Yes [ ] No	
5.4.12.3	Alternative 2 for Off-hook during overload?		[ ] Yes [ ] No	
5.4.12.4	Alternative 3 for Off-hook during overload?		[ ] Yes [ ] No	
5.4.13.1	New Incoming Call Presented by LE is Rejected by the AN as a Result of Executing Autonomous Action 5.2.3.1.4?		[ ] Yes [ ] No	

Table C.2. DEL Message Sequence Charts

Annex D (Informative): Loop Calling PBX Specific Characteristics

The information contained in this annex will reflect the Network Operator and Equipment Supplier implementation details as related to the V5 interface.

D.1 Electrical Characteristics of Analogue Signals

Table D.1 is provided below to enable the agreed characteristics to be recorded in the PICS. Reference may also be made within the table to Network Operator or Supplier specifications.

Analogue Signal Name	Electrical Characteristics	Reference to other Specifications
ON-HOOK		
OFF-HOOK		
30kΩ LOOP		
DIGITS		
REGISTER RECALL		
NORMAL POWER FEED		
REVERSED POWER FEED		
DISCONNECT CLEAR		
PARKED LINE FEED		
CALL ARRIVAL INDICATION		
INITIAL RING		
SPM PULSE		
HOOK FLASH		

Table D.1. Electrical Characteristics of Analogue Line Signals

D.2 Loop Calling PBX Message Sequence Charts

Table D.2 is provided below to enable the agreed MSCs to be recorded in the PICS. Additional MSCs may be included in the bilateral agreement and is catered for in the table. All initial MSCs described in this table appear in the referenced subclauses of SSPE/SPEC/001-1 [1].

Index	**Message Sequence Charts** **Does the implementation support..**	**External Spec Reference**	**Support**	Comments
5.4.1.1	Successful Call (O/G Call including answer): 'A' end?		[ ] Yes [ ] No	
5.4.1.2	Successful Call (I/C Call including answer): 'B' end?		[ ] Yes [ ] No	
5.4.1.3	Alternative Successful Call (I/C Call including answer): 'B' end?		[ ] Yes [ ] No	
5.4.2.1	Call clearing ('A' end clears first, followed by 'B'): 'A' end?		[ ] Yes [ ] No	
6.4.1	Call clearing ('A' end clears first, followed by 'B'): 'B' end?		[ ] Yes [ ] No	
6.4.2	Call clearing ('B' end clears first, followed by 'A'): 'A' end?		[ ] Yes [ ] No	
5.4.2.4	Call clearing ('B' end clears first, followed by 'A'): 'B' end?		[ ] Yes [ ] No	
5.4.2.5	Alternative Call Clearing (''B' end clears first, followed by 'A'): 'A' end?		[ ] Yes [ ] No	
6.4.3	Unsuccessful Call (LE clears prior to answer): 'A' end?		[ ] Yes [ ] No	
5.4.3.2	Unsuccessful Call (LE clears prior to answer): 'B' end?		[ ] Yes [ ] No	
5.4.4.1	'B' end re-answers - 'B' end?		[ ] Yes [ ] No	
5.4.4.2.1	Re-ring of held subscriber?		[ ] Yes [ ] No	
5.4.4.2.2	Alternative Method of Re-Ringing of Held Subscriber?		[ ] Yes [ ] No	
5.4.5.1	Data transmission during ringing 'B' end?		[ ] Yes [ ] No	
5.4.5.2	Data transmission prior to ringing 'B' end?		[ ] Yes [ ] No	
6.4.4.1	'A' clears, 'B' remains Off Hook until parked & then clears - 'B' end?		[ ] Yes [ ] No	
6.4.4.2	'A' remains Off Hook after dialling insufficient digits?		[ ] Yes [ ] No	
5.4.7.1	Call collision - Outgoing call priority?		[ ] Yes [ ] No	

5.4.7.2	Subscriber 'B' clears then goes off hook resulting in collision between release of connection from LE and O/G call?		[ ] Yes [ ] No	
5.4.8.1	Register recall - 'A' or 'B' end?		[ ] Yes [ ] No	
5.4.8.2	Hook Flash - 'A' or 'B' end?		[ ] Yes [ ] No	
5.4.8.3	Call Forwarding Indication - 'A' end?		[ ] Yes [ ] No	
5.4.9.1	SPM delivery?		[ ] Yes [ ] No	
5.4.10.1	30kΩ loop activation?		[ ] Yes [ ] No	
5.4.10.2	30kΩ loop deactivation?		[ ] Yes [ ] No	
5.4.11.1	User port blocks and unblocks during call, user remains off-hook?		[ ] Yes [ ] No	
5.4.11.2	User port blocks and unblocks during SPM pulsing, new incoming call arrives before pulsing complete?		[ ] Yes [ ] No	
5.4.12.1	Off-hook during overload - ETSI Sequence?		[ ] Yes [ ] No	
6.4.5.1	Alternative 1 for Off-hook during overload?		[ ] Yes [ ] No	
5.4.12.3	Alternative 2 for Off-hook during overload?		[ ] Yes [ ] No	
5.4.12.4	Alternative 3 for Off-hook during overload?		[ ] Yes [ ] No	
5.4.13.1	New Incoming Call Presented by LE is Rejected by the AN as a Result of Executing Autonomous Action 5.2.3.1.4?		[ ] Yes [ ] No	

Table D.2. Loop Calling PBX Message Sequence Charts

Annex E (Informative): Earth Calling PBX Specific Characteristics

The information contained in this annex will reflect the Network Operator and Equipment Supplier implementation details as related to the V5 interface.

E.1 Electrical Characteristics of Analogue Signals

Table E.1. is provided below to enable the agreed characteristics to be recorded in the PICS. Reference may also be made within the table to Network Operator or Supplier specifications.

Analogue Signal Name	Electrical Characteristics	Reference to other Specifications
ON-HOOK		
EC-PBX SEIZE		
OFF-HOOK		
30kΩ LOOP		
DIGITS		
REGISTER RECALL		
NORMAL POWER FEED		
REVERSED POWER FEED		
IDLE LINE FEED		
DISCONNECT CLEAR		
PARKED LINE FEED		
CALL ARRIVAL INDICATION		
SPM PULSE		
HOOK FLASH		

Table E.1. Electrical Characteristics of Analogue Line Signals

E.1 Earth Calling PBX Message Sequence Charts

Table E.2 is provided below to enable the agreed MSCs to be recorded in the PICS. Additional MSCs may be included in the bilateral agreement and is catered for in the table. All initial MSCs described in this table appear in the referenced subclauses of SSPE/SPEC/001-1 [1].

Index	**Message Sequence Charts** **Does the implementation support..**	**External Spec Reference**	**Support**	Comments
7.4.1	Successful Call (O/G Call including answer): 'A' end?		[ ] Yes [ ] No	
5.4.1.2	Successful Call (I/C Call including answer): 'B' end?		[ ] Yes [ ] No	
5.4.1.3	Alternative Successful Call (I/C Call including answer): 'B' end?		[ ] Yes [ ] No	
5.4.2.1	Call clearing ('A' end clears first, followed by 'B'): 'A' end?		[ ] Yes [ ] No	
6.4.1	Call clearing ('A' end clears first, followed by 'B'): 'B' end?		[ ] Yes [ ] No	
6.4.2	Call clearing ('B' end clears first, followed by 'A'): 'A' end?		[ ] Yes [ ] No	
5.4.2.4	Call clearing ('B' end clears first, followed by 'A'): 'B' end?		[ ] Yes [ ] No	
5.4.2.5	Alternative Call Clearing ('B' end clears first, followed by 'A'): 'A' end?		[ ] Yes [ ] No	
6.4.3	Unsuccessful Call (LE clears prior to answer): 'A' end?		[ ] Yes [ ] No	
5.4.3.2	Unsuccessful Call (LE clears prior to answer): 'B' end?		[ ] Yes [ ] No	
7.4.2.1	EC-PBX Faulty Seize: 'A' End (PBX Removes EC-PBX SEIZE signal and does not apply OFF HOOK)?		[ ] Yes [ ] No	
7.4.2.2	EC-PBX Faulty Seize: 'A' End (PBX removes EC-PBX SEIZE signal and does not apply OFF HOOK) (Alternative)?		[ ] Yes [ ] No	
7.4.2.3	EC-PBX Faulty Seize: 'A' End (PBX does not remove EC-PBX SEIZE signal)?		[ ] Yes [ ] No	
5.4.4.1	'B' end re-answers - 'B' end?		[ ] Yes [ ] No	
5.4.4.2.1	Re-ring of held subscriber?		[ ] Yes [ ] No	
5.4.4.2.2	Alternative Method of Re-Ringing of Held Subscriber?		[ ] Yes [ ] No	

6.4.4.1	'A' clears, 'B' remains Off Hook - 'B' end?		[ ] Yes [ ] No	
7.4.3.1	'A' remains Off Hook after dialling insufficient digits?		[ ] Yes [ ] No	
7.4.4.1	Call collision - Outgoing call priority?		[ ] Yes [ ] No	
7.4.4.2	Collision between release of connection from LE and O/G Call (O/G Call Continues)?		[ ] Yes [ ] No	
7.4.4.3	Collision between release of connection from LE and O/G Call (O/G Call Aborted)?		[ ] Yes [ ] No	
5.4.8.1	Register recall - 'A' or 'B' end?		[ ] Yes [ ] No	
5.4.8.2	Hook Flash - 'A' or 'B' end?		[ ] Yes [ ] No	
5.4.9.1	SPM delivery?		[ ] Yes [ ] No	
5.4.10.1	30kΩ loop activation?		[ ] Yes [ ] No	
5.4.10.2	30kΩ loop deactivation?		[ ] Yes [ ] No	
5.4.11.1	User port blocks and unblocks during call, user remains off-hook?		[ ] Yes [ ] No	
5.4.11.2	User port blocks and unblocks during SPM pulsing, new incoming call arrives before pulsing complete?		[ ] Yes [ ] No	
7.4.5.1	Off-hook during overload - ETSI Sequence?		[ ] Yes [ ] No	
7.4.5.2	Alternative 1 for Off-hook during overload?		[ ] Yes [ ] No	
7.4.5.3	Alternative 2 for Off-hook during overload?		[ ] Yes [ ] No	
7.4.5.4	Alternative 3 for Off-hook during overload?		[ ] Yes [ ] No	
5.4.13.1	New Incoming Call Presented by LE is Rejected by the AN as a Result of Executing Autonomous Action 5.2.3.1.4?		[ ] Yes [ ] No	

Table E.2. Earth Calling PBX Message Sequence Charts

Annex F (Informative): DDI Specific Characteristics

The information contained in this annex will reflect the Network Operator and Equipment Supplier implementation details as related to the V5 interface.

F.1 Electrical Characteristics of Analogue Signals

Table F.1 is provided below to enable the agreed characteristics to be recorded in the PICS. Reference may also be made within the table to Network Operator or Supplier specifications.

Analogue Signal Name	Electrical Characteristics	Reference to other Specifications
DDI NORMAL POLARITY		
DDI REVERSED POLARITY		
DDI NO BATTERY		
DDI SEIZE		
DDI DIGIT		
DDI EXCHANGE RELEASED		
DDI IDLE		

Table F.1. Electrical Characteristics of Analogue Line Signals

F.2 DDI Message Sequence Charts

Table F.2 is provided below to enable the agreed MSCs to be recorded in the PICS. Additional MSCs may be included in the bilateral agreement and is catered for in the table. All initial MSCs described in this table appear in the referenced subclauses of SSPE/SPEC/001-1 [1].

Index	**Message Sequence Charts** **Does the implementation support..**	**External Spec Reference**	**Support**	Comments
8.4.1.1	I/C call including answer?		[ ] Yes [ ] No	
8.4.1.2	Early Answer (PBX sends answer prior to extension digits being sent)?		[ ] Yes [ ] No	
8.4.2.1	DDI Unsuccessful Call - PBX Extension is either busy or unobtainable?		[ ] Yes [ ] No	
8.4.3.1	DDI Call Clearing - Caller clears first after answer then PBX clears during DDI EXCHANGE RELEASED signal?		[ ] Yes [ ] No	
8.4.3.2	DDI Call Clearing - Caller clears first after answer then PBX clears during DDI EXCHANGE RELEASED signal (Alternative)?		[ ] Yes [ ] No	
8.4.3.3	DDI Call Clearing - Caller clears first after answer then PBX does not clear during DDI EXCHANGE RELEASED signal?		[ ] Yes [ ] No	
8.4.3.4	DDI Call Clearing - Caller clears first after answer then PBX does not clear during DDI EXCHANGE RELEASED signal (Alternative)?		[ ] Yes [ ] No	
8.4.3.5	DDI Call Clearing - PBX clears first after answer?		[ ] Yes [ ] No	
8.4.3.6	DDI Call Clearing - PBX clears and re-answers?		[ ] Yes [ ] No	
8.4.3.7	DDI Call Clearing - Caller clears an unanswered, unavailable or busy extension?		[ ] Yes [ ] No	
8.4.3.8	DDI Call Clearing - Caller goes on-hook during call set-up?		[ ] Yes [ ] No	
8.4.4.1	DDI PBX Port Busying - PBX busies the line post call set-up?		[ ] Yes [ ] No	
8.4.4.2	DDI PBX Port Busying - PBX busies the port in Free state?		[ ] Yes [ ] No	
8.4.4.3	DDI Port Unblocking - LE Blocks and Unblocks the user port after it has been back busied?		[ ] Yes [ ] No	

Table F.2 DDI Message Sequence Charts

END