100 SC 0 P L # <u>312</u>	CI 00 SC 0 P L # 313				
uszák, Gergely Kone	Huszák, Gergely Kone				
omment Type E Comment Status A EZ	Comment Type E Comment Status A Editoria				
There are unnecessary and inconsistent repetitions of references to table 147-1 (e.g. "5B symbol as defined in Table 147-1")	There are unnecessary and inconsistent repetitions the two names of the 5B symbols (e.g. "SYNC, SYNC, SYNC, SSD sequence (that is a J/J/J/K 5B sequence)" and "SYNC, SSD symbol sequence (that is a J/K sequence)").				
uggestedRemedy	At the same time also fix the inconsistent use of the term "symbol"				
Remove all but the first reference (in C147) to table 147-1	SuggestedRemedy				
esponse Response Status C ACCEPT IN PRINCIPLE. Delete "(See Table 147-1)" at: page 134 line 36; page 135 lines 9, 11, 14, 16, 19, 21; page 143 lines 10 and 19	Use only the names listed in column "Special function" of table 147-1 Remove unnecessary use of "symbol" Example changes: "SYNC, SYNC, SYNC, SSD sequence (that is a J/J/J/K 5B sequence)" -> "SYNC, SYNC, SYNC, SSD sequence" "SYNC, SSD sequence"				
	Response Response Status C				
*keep references to Table 147-1 in first reference, ENCODE and DECODE function definitions	ACCEPT IN PRINCIPLE. Delete "(that is a sequence)" at: Page 139 line 3 and Page 142 line 17)				
uszák, Gergely Kone					
omment Type E Comment Status A Editorial	C/ 00 SC 0 P1 L6 # 301				
Usage of the term 10BASE-T1S is inconsistent ("10BASE-T1S" vs. "10BASE-T1S PHY" vs. "10BASE-T1S Ethernet PHY")	Maguire, Valerie The Siemon Company Comment Type E Comment Status A				
uggestedRemedy	"Draft Standard for Ethernet-Amendment:" appears twice on the title page.				
- "10BASE-T1S" should be used as an adjective - "10BASE-T1S PHY" should be used as an noun - "10BASE-T1S Ethernet PHY" should not be used	SuggestedRemedy Delete "Draft Standard for Ethernet Amendment:" on lines 12-15.				
esponse Response Status C	Response Response Status C				
ACCEPT IN PRINCIPLE. Change "10BASE-T1S Ethernet PHY" to "10BASE-T1S PHY" on page 145 line 50	ACCEPT. Delete "Draft Standard for Ethernet Amendment:" on lines 12-15.				
Change "the 10BASE-T1S PHY" on page 129 line 33 to "10BASE-T1S"	C/ 00 SC 0 P1 L 21 # 494 Jones, Peter Cisco				
(Note "10BASE-T1S" may be a noun or an adjective - sometimes it is the name of the	Comment Type E Comment Status A Lat				
protocol. Do not globally modify other instances of "10BASE-T1S" (these may be subject	Task Force title and standard title need to be updated to reflect PAR modifications				
to later, detailed editorial comments on a case by case basis))	SuggestedRemedy				
	Change "Operation over Single Balanced Twisted-pair Cabling and Associated Power Delivery" to "Operation and Associated Power Delivery over a Single Balanced Pair of Overdectors"				
	Conductors"				
	Response Response Status C				

SC 0

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COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

C/00 SC 0	P1	L 22	# 300		C/ 30	SC 30.3	P 29	-	# 461
Maguire, Valerie	The Siemon	Company			Brandt, Davi	a		vell Automation	
Comment Type E Align media references wit	Comment Status A th revised objectives.			Editorial	Comment Ty 10BASE		Comment Status s PLCA management	Α	Managemen
SuggestedRemedy					SuggestedR	emedy			
Globally search and replace when the text appears before etc.). The first occurance of	ore a media term (e.g. "c	abling", "connect					0-3 to draft, insert an a to-one relationships. B		between oMACEntity and and link to 30.3.9.
Response F	Response Status C				Add nev	v clause to dra	aft:		
ACCEPT IN PRINCIPLE. Updated proposed resolut balanced twisted-pair" hav #499, #500, and #501. Re instructions.	ve been resolved by comr	ments #494, #495	5, #496, #497, #4	gle 498,	This sub attribute	clause forma	ed object class Illy defines the behavio	urs for the oPLCA mar	naged object class
C/ 00 SC 0	P 4	L 0	# 495						
Jones, Peter	Cisco	20	# 495		30.3.9.1	.1 aPLCAAdr	ninState		
	Comment Status A			Late	ATTR	IBUTE			
Task Force title and stand		ted to reflect PAR	R modifications	Luto	APPR	OPRIATE SY	ΊΝΤΔΧ·		
SuggestedRemedy Change "IEEE P802.3cg 1 P802.3cg 10 Mb/s Single	10 Mb/s Single Twisted P Pair Ethernet Task Force	air Ethernet Task	Force" to "IEEE	E	dis	ENUMERATE sabled abled	D VALUE that has the	following entries:	
Response F	Response Status C					VIOUR DEFI			
ACCEPT IN PRINCIPLE.					for PLC/	A operation. A	A disabled PLCA utilize	s Clause 22 reconcilia	
Change "Single Twisted P	air Ethernet to Single-P	air Ethernet			Clause ?	148. By defau	It, PLCA is disabled.;		
						PLCA device			
					ACTIC	DN			
						OPRIATE SY ame as aPLC	NTAX: AAdminState		
					Th enabled Clause	state will res	vides a means to alter a ult in alteration of the R the PHY implements a	econciliation Sublayer	behavior to follow ause 147 PLCA as
					indicated		enace register ability bi	1 3.2292. 13 and enable	e bit 3.2291.13,

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general	C/ 30
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 30.3
SORT ORDER: Clause, Subclause, page, line	

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ACTION

APPROPRIATE SYNTAX:

An ENUMERATED VALUE that has the following entries: reset

normal

BEHAVIOUR DEFINED AS:

This action provides a means to reset the PLCA state of a Reconciliation Sublayer. Setting acPLCAReset to reset will reset the PLCA portion of a Reconciliation Sublayer provided the PHY implements and enables optional Clause 147 PLCA as indicated in MDIO interface register ability bit 3.2292.13 and enable bit 3.2291.13. After reset is complete, acPLCAReset returns to normal. The default state of acPLCAReset is normal.;

Response

Response Status C

ACCEPT IN PRINCIPLE.

Jon Lewis to to develop new Figure 30-3 to support a "replace" change instruction, and add new clause as suggested.

C/ 30	SC 30.5.1	.1.4 P 29	L 35	# <u>3</u> 02
Maguire, Va	alerie	The Sie	emon Company	
Comment T	ype E	Comment Status	Α	EZ

1000BASE-RH was made the third sentence and 100BASE-T1 the fourth sentence in the draft 3.2 revision of 802.3cj.

SuggestedRemedy

Change "Change the third sentence" to "Change the fourth sentence" in the editing instruction on line 35.

ACCEPT.

Change "Change the third sentence" to "Change the fourth sentence" in the editing instruction on line 35.

CI 30	SC 30.5.1.1.4	P 29	L 38	# 303
Maguire,	Valerie	The Siemon	Company	

Maguire, Valerie

Response Status C

Comment Type Ε Comment Status A

Unchanged text should not be shown.

SuggestedRemedy

Delete, "All other states of link status map to the enumeration "not available"." on line 38.

Response Response Status C

ACCEPT.

Delete, "All other states of link_status map to the enumeration "not available"." on line 38.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 45	SC 45	5.2.1.174a	P 3	2	L 36	# 291	
Graber, Steff	en		Peppe	erl+Fuchs	GmbH		
Comment Ty	pe	т	Comment Status	Α		A	utoNeg

1 = Enable 1.0 Vpp operating mode, 0 = Enable 2.4 Vpp operating mode

Response Status C

SuggestedRemedv

1 = Enable 2.4 Vpp operating mode, 0 = Enable 1.0 Vpp operating mode (1.0 Vpp is intended to be the default behavior in the future, to support 1.8 V only supply voltages for a PHY IC) (See presentation "10BASE-T1L Auto-Negotiation". This bit can be independently set by the management entity, if auto-negotiation is disabled. If auto-negotiation is enabled, this bit has to be set by management entity according to the auto-negotiation rules defined in the next page mechanism.)

ACCEPT.

- Change from, 1 = Enable 1.0 Vpp operating mode
- 0 = Enable 2.4 Vpp operating mode

to.

F7

1 = Enable 2.4 Vpp operating mode 0 = Enable 1.0 Vpp operating mode

> C/ 45 SC 45.2.1.174a

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Cl 45 SC 45.2.1.174a P 32 L 40 # 292 Graber, Steffen Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH # 292 Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH	C/ 45 SC 45.2.1.174a.4 P 33 L 25 # 293 Graber, Steffen Pepperl+Fuchs GmbH Pepperl+Fuchs				
Comment Type T Comment Status A EEI Bit 1.2294.10 is reserved SuggestedRemedy Change bit 1.2294.10 functionality to: 1 = Enable EEE functionality, 0 = Disable EEE functionality (See presentation "10BASE-T1L Auto-Negotiation". This bit is set by independently the management entity, if auto-negotiation is disabled. If auto-negotiation rules defined in the next page mechanism.) Response Response Status C ACCEPT IN PRINCIPLE. Change reserved row bits from, 1.2294.10:0 to, 1.2294.9:0 C	Comment Type T Comment Status A When bit 1.2294.12 is set to one, the 10BASE-T1L PMA shall transmit using the 1.0 N operating mode according to 146.5.4.1. When bit 1.2294.12 is set to zero, the 10BASE T1L PMA shall transmit using the 2.4 Vpp operating mode according to 146.5.4.1. The default value of bit 1.2294.12 is zero. SuggestedRemedy When bit 1.2294.12 is set to one, the 10BASE-T1L PMA shall transmit using the 2.4 N operating mode according to 146.5.4.1. When bit 1.2294.12 is set to zero, the 10BASE T1L PMA shall transmit using the 2.4 N operating mode according to 146.5.4.1. The default value of bit 1.2294.12 is zero. SuggestedRemedy When bit 1.2294.12 is set to one, the 10BASE-T1L PMA shall transmit using the 2.4 N operating mode according to 146.5.4.1. The default value of bit 1.2294.12 is zero. T1L PMA shall transmit using the 1.0 Vpp operating mode according to 146.5.4.1. The default value of bit 1.2294.12 is zero. (reverse signal amplitude levels and add Auto-Negotiation enable bit)				
1.2294.10:0 to, 1.2294.9:0 Insert new bit after 1.2294.11 Bit(s): 1.2294.10 Name: EEE functionality Description:	Response Response Status C ACCEPT IN PRINCIPLE. Change from, Vhen bit 1.2294.12 is set to one, the 10BASE-T1L PMA shall transmit using the 1.0 Vpp operating mode according to 146.5.4.1. When bit 1.2294.12 is set to zero, the 10BASE-T1L PMA shall transmit using the 2.4 Vpp operating mode according to 146.5.4.1. to, When bit 1.2294.12 is set to one, the 10BASE-T1L PMA shall transmit using the 2.4 Vpp				
Description: 1 = Enable EEE functionality 0 = Disable EEE functionality R/W: R/W					

C/ 45 SC 45.2.1.174a.4

C/ 45 SC 45.2.1.174a.6 P 33 L 45 # 294 Graber, Steffen Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH Pepperl Pepperl	Cl 45 SC 45.2.1.174b.1 P 34 L 38 # 338 Graber, Steffen Pepperl+Fuchs GmbH 338
Comment Type T Comment Status A EEE Description for bit "Enable EEE functionality" needs to be added. EEE	Comment Type E Comment Status A EZ When read as one EX EX EX
SuggestedRemedy Add chapter "45.2.1.174a.6 EEE functionality (1.2294.10)". When bit 1.2294.10 is set to one, the 10BASE-T1L PHY shall enable EEE functionality. When bit 1.2294.10 is set to zero, the 10BASE-T1L PHY shall disable EEE functionality. The default value of bit 1.2294.10 is zero.	SuggestedRemedy When read as a one . (align with other text parts of Clause 45) Response Response Status C ACCEPT IN PRINCIPLE.
Response Response Status C ACCEPT IN PRINCIPLE. Insert new clause,	Change from, "When read as one" to,
45.2.1.174a.6 EEE functionality (1.2294.10)	"When read as a one" on line 38
When bit 1.2294.10 is set to one, the 10BASE-T1L PHY shall enable EEE functionality. When bit 1.2294.10 is set to zero, the 10BASE-T1L PHY shall disable EEE functionality. The default value of bit 1.2294.10 is zero.	Change from, "When read as zero"
Cl 45 SC 45.2.1.174b P 34 L 13 # 295 Graber, Steffen Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH Pepperl Pepperl	to, "When read as a zero" on line 39
Comment TypeTComment StatusAAutoNeg1 = PHY has 1.0 Vpp operating mode ability, 0 = PHY does not have 1.0 Vpp operating mode ability	
SuggestedRemedy	
1 = PHY has 2.4 Vpp operating mode ability, 0 = PHY does not have 2.4 Vpp operating mode ability (default value is now 1.0 Vpp, optional mode is 2.4 Vpp, therefore 1.0 Vpp needs to be changed to 2.4 Vpp)	
Response Response Status C ACCEPT IN PRINCIPLE.	
Change from, 1 = PHY has 1.0 Vpp operating mode ability 0 = PHY does not have 1.0 Vpp operating mode ability	
to, 1 = PHY has 2.4 Vpp operating mode ability, 0 = PHY does not have 2.4 Vpp operating mode ability	

C/ 45 SC 45.2.1.174b.2 P 34 L 4 Graber, Steffen Pepperl+Fuchs GmbH		C/ 45 SC 45.2.1.174b.5 Graber, Steffen	P 35 Pepperl+Fuch	L 11 ns GmbH	# 340	
Comment Type T Comment Status A 45.2.1.174b.2 1.0 Vpp operating mode ability (1.2295.12) When read as one, this bit indicates that the 10BASE-T1L F 1.0 Vpp. When read as a zero, this bit indicates that the 10B support a transmit level of 1.0 Vpp.		Comment Type E Con Is controlled using . SuggestedRemedy is controlled by using .	mment Status R			EZ
uggestedRemedy 45.2.1.174b.2 2.4 Vpp operating mode ability (1.2295.12) When read as one, this bit indicates that the 10BASE-T1L F 2.4 Vpp. When read as a zero, this bit indicates that the 10B support a transmit level of 2.4 Vpp. (change 1.0 Vpp to 2.4 V	ASE-T1L PHY does not	Response Res REJECT. "Controlled by using" doesn't "Controlled using" shows up r	•	on 4 of 802.3-2015.		
ACCEPT IN PRINCIPLE.		C/ 45 SC 45.2.1.174b.6 Graber, Steffen	P 35 Pepperl+Fuch	<i>L</i> 16 ns GmbH	# 342	
Change from, 45.2.1.174b.2 1.0 Vpp operating mode ability (1.2295.12) When read as a one, this bit indicates that the 10BASE-T1L of 1.0 Vpp. When read as a zero, this bit indicates that the 1 support a transmit level of 1.0 Vpp.		Comment Type E Con When read as one SuggestedRemedy When read as a one . (align v	mment Status A	Clause 45)		EZ
to, 45.2.1.174b.2 2.4 Vpp operating mode ability (1.2295.12) When read as one, this bit indicates that the 10BASE-T1L F 2.4 Vpp. When read as a zero, this bit indicates that the 10B support a transmit level of 2.4 Vpp.		Response Res ACCEPT. Change from, "When read as one"	ponse Status C			
/ 45 SC 45.2.1.174b.2 P 34 L 4 raber, Steffen Pepperl+Fuchs GmbH		to, "When read as a one"				
omment Type E Comment Status A When read as one	EZ	C/ 45 SC 45.2.1.174b.6 Graber, Steffen	P 35 Pepperl+Fuch	L 16 ns GmbH	# 341	
uggestedRemedy When read as a one . (align with other text parts of Clause 4	5)	Comment Type E Con When read as zero	mment Status A			EZ
esponse Response Status C	.,	<i>SuggestedRemedy</i> When read as a zero . (align	with other text parts of	Clause 45)		
to, "When read as a one"		Response Res ACCEPT. Change from, "When read as zero"	ponse Status C			
		to, "When read as a zero"				

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/generalC/45Page 6 of 81COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawnSC 45.2.1.174b.65/22/2018 5:27:22 PMSORT ORDER: Clause, Subclause, page, lineSORT ORDER: Clause, Subclause, page, lineSC 45.2.1.174b.6SC 45.2.1.174b.6

C/ 45 SC 45.2.1.174b.6 Graber, Steffen	P 35 Pepperl+Fuct	L 17 ns GmbH	# 343		<i>Cl</i> 45 Brandt, Da	SC 45.2.1. avid	74d	P 37 Rockwell Au	L 11 tomation	# 454
Comment Type E Com. . that the polarity of receiver is	ment Status A reversed.			ΕZ	Comment 10BA			ent Status A er lacks loopback		PMA Discuss
SuggestedRemedy . that the polarity of the receive	is reversed.				Suggested Insert		74d.2 and re	e-number rest of o	clause:	
Response Response ACCEPT. Change from, the polarity of receiver to, the polarity of the receiver	nse Status C				The 10 1.2299 When it on th 1.0.0 a	9.13 is set to a in loopback the he receive path and setting	IA shall be p one, and PL e 10BASE-T . The default	Diaced in loopback CA enable bit in N 1S PMA shall acc value of bit 1.229	MDIO register 3.2 cept data on the t 99.13 is zero. Bit	on when loopback bit 291.13 is set to a zero. ransmit path and return 1.2299.13 is a copy of shall enable loopback.
C/ 45 SC 45.2.1.174d Brandt, David	P 36 Rockwell Auto	L 38 omation	# 453		Response ACCE	PT IN PRINCI	,	se Status C		
10BASE-T1S PMA control regi SuggestedRemedy Copy: Table 45-142a, 1.2294.1 Insert in Table 45-142d as 1.22	3,		PMA Dis	scuss	45.2.1 The 10 1.2299 When it on th 1.0.0 a	I.174d.2 Loopb 0BASE-T1S PM 9.13 is set to a in loopback the he receive path	ack (1.2299. IA shall be p one, and PL 10BASE-T The default	13) blaced in loopback CA enable bit in N 1S PMA shall acc t value of bit 1.229	k mode of operati MDIO register 3.2 cept data on the t 99.13 is zero. Bit	nber rest of clause: on when loopback bit 291.13 is set to a zero. ransmit path and return 1.2299.13 is a copy of Setting either bit shall
Copy: Table 45-142a, 1.2294.1 Insert in Table 45-142d as 1.22 1.2299.13:12 to 1.2299.12		12d, change the	reserved row from		C/ 45 Brandt, Da Comment			P 37 Rockwell Au ent Status A	L 22 tomation	# 464
Insert new bit after 1.2299.14 Bit(s): 1.2299.13 Name: Loopback ability						rence errors	0.0111110			_
Description: 1 = PHY has loopback ability					00	,	1.2299.11,2	2 places in parag	raph.	
0 = PHY has no loopback abilit R/W: RO	/				Response ACCE		Respons	se Status C		
					Chang	ge1.2294.11 to	1.2299.11 in	two locations in	clause 45.2.1.174	ld.3

C/ 45 SC 45.2.1.174d.3

C/ 45 SC 45.2.1.174e P 38 L 9 # 455 Brandt, David Rockwell Automation Rockw	Cl 45 SC 45.2.1.174e P 38 L 33 # 456 Brandt, David Rockwell Automation Rock
Comment Type T Comment Status A PMA Discuss 10BASE-T1S PMA status register lacks loopback	Comment Type T Comment Status A PMA Discus 10BASE-T1S PMA status register lacks loopback
SuggestedRemedy Copy: Table 45-142b, 1.2295.13, Insert in Table 45-142e as 1.2300.13. Response Response Status C ACCEPT IN PRINCIPLE. Copy: Table 45-142b, 1.2295.13, Insert in Table 45-142e as 1.2300.13.In Table 45-142e, change the reserved row from 1.2300.15:12 to 1.2300.15:14 Insert new bit after reserved row 1.2300.15:14 Bit(s): 1.300.13 Name: Loopback ability Description: 1 = PHY has loopback ability 0 = PHY has no loopback ability R/W: RO	SuggestedRemedy Insert before 45.2.1.174e.1 and re-number: 45.2.1.174e.1 Loopback ability (1.2300.13) When read as one, this bit indicates that the 10BASE-T1S PHY supports PMA loopback. When read as zero, this bit indicates that the 10BASE-T1S PHY does not support PMA loopback. Response Response Status C ACCEPT IN PRINCIPLE. Insert before 45.2.1.174e.1 10BASE-T1S OAM ability (1.2300.11) and re-number rest of clause: 45.2.1.174e.1 Loopback ability (1.2300.13) When read as a one, this bit indicates that the 10BASE-T1S PHY supports PMA loopback. When read as a zero, this bit indicates that the 10BASE-T1S PHY does not support PMA loopback.
Insert new reserved row after new 1.300.13 Bit(s): 1.300.12 Name: Reserved Description: Value always 0 R/W: RO	Cl 45 SC 45.2.1.174h.1 P 41 L 31 # 465 Brandt, David Rockwell Automation Comment Type E Comment Status A E Wrong link SuggestedRemedy Change 147.5.2, text and link to 147.5.1 Response Response Status C ACCEPT. Change from, 147.5.2 to, 147.5.1 and update link

C/ 45 SC 45.2.1.174i P 41 L 34 # 388 CORDARO, Jay BROADCOM BROADCOM <td< th=""><th>R/W^a: RO Bottom table row: ^aRO = Read only, R/W = Read/Write</th></td<>	R/W^a: RO Bottom table row: ^aRO = Read only, R/W = Read/Write
Comment Type TR Comment Status D Cable Diagnostics Discuss Add PMA register for Cable Diagnostics Control (1.2304) Cable Diagnostics Discuss Cable Diagnostics Discuss	C/ 45 SC 45.2.1.174i.1 P 41 L 36 # 389 CORDARO, Jay BROADCOM
SuggestedRemedy Bit(s) [Name Description R/Wa 2 [Cable Diagnostics Control Mode 1= Through RW 0= Reflection 1 [Cable Diagnostics Control Mode 1= Cable Diagnostics on RW 0= Cable Diagnostics Supported 1= Cable Diagnostics off 0 Cable Diagnostics Supported 1= Cable Diagnostics on Supported RO 0= Cable Diagnostics not Supported Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Task Force to discuss along with presentation. Consider after comment #389 is resolved. If accepted, change as proposed is to: Insert Table 45-142i - Cable diagnostics control register bit definitions on line 36 Bit(s): 1.2304.15:3 Name: Reserved Description: Value always 0 R/W^A: RO Bit(s): 1.2304.2 Name: Cable diagnostics control mode Description: 1 = Through 0 = Cable diagnostics control mode Description: 1 = Through 1 = Cable diagnostics control Description: 1 = Cable diagnostics on 0 = Cable diagnostics on 0 = Reflection R/W^A: RW Bit(s): 1.2304.1 Name: Cable diagnostics ontrol Description: 1 = Cable diagnostics off 1 = Cable diagnostics off R/W^A: RW	CORDARO, Jay EROADCOM Comment Type TR Comment Status D Cable Diagnostics Discuss Add description for Cable Diagnostics Control Suggested/Remedy When supported, if bit 1 is set to '1', normal opertaion is suspended and a cable diagnostics signal is passed to the PMA consisting of the following: 16 bit times where a Ga32 SYNC word is transmitted then 16 bit times where he PMD drives a differential voltage of 0 V or high impedance then 16 bit times where the PMD drives a differential voltage of 0 V or high impedance. Proposed Response Response Status Z REJECT. This comment was WITHDRAWN by the commenter. Task Force to discuss along with presentation. Consider after comment #389 is resolved. If accepted, change as proposed is to: If comment #388 is accepted, insert new clause after new Table 45-142i, 45.2.1.174i.1 Cable diagnostics control (1.2304.2:0) When supported, if bit 1 is set to '1', normal opertaion is suspended and a cable diagnostics signal is passed to the PMA consisting of the following: 16 bit times where a Ga32 SYNC word is transmitted then 16 bit times where the PMD drives a differential voltage of 0 V or high impedance.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 45 SC 45.2.1.174i.1 Page 9 of 81 5/22/2018 5:27:22 PM

C/ 45 CORDAR(SC 45.2 D, Jay	2.1.174j	P 41 BROADCOM	L 38	# 390
Comment Add R			ment Status D able Diagnostics statu	ıs (1.2305)	Cable Diagnostics Discuss
Reflec	Name E distance	Diagnostics s Description R to first reflect on Cable Diag	?/Wa tion in tenths of meter nostics Status 111 =	cable status one wire sh open edance es shorted en/high impe	orted to ground or voltage
	Response OSED ACC	Resp CEPT IN PRIN	onse Status W NCIPLE.		
Task I	Force to dis	cuss along wi	ith presentation. Cons	sider after co	mment #389 is resolved.
If acce	epted, chan	ge as propose	ed is to:		
			on cable diagnostics s gnostics control (1.23		r bit definitions after new
• • •	ption:		on in tenths of meter		
Name Descr	always 0				
Name Descr 111 = 110 = 101 = 100 = 011 =	iption: cable statu	gnostics contr s indetermina norted to grou en lance	ite		

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 45 SC 45.2.1.174j Page 10 of 81 5/22/2018 5:27:22 PM

001 = cable open/high impedance 000 = normal cable R/W^a: RO

Bottom table row: ^aRO = Read only

Insert new clauses after new Table 45-142j,

45.2.1.174.j.1 Distance to first reflection in tenths of meter (1.2305.15:18) Bits 15:8 indicate the distance to first reflection in tenths of meter (TBD).

45.2.1.174.j.2 Cable diagnostics control (1.2305.2:0) Bits 2:0 indicate the electrical status of the cable (TBD).

C/ 45 SC 45.2.1.174k P 41 L 40 CORDARO, Jay BROADCOM	# 391	Name Descr	1.2306.8:3 : Cable diagno iption:	stics throug	gh peak		
Comment Type TR Comment Status D Add Registers for Transmission Cable Diagnostics status (1.2)	Cable Diagnostics Discuss 2305)	64 = h 0 = lo R/W^a				1	
SuggestedRemedy Through Cable Diagnostics status Bit(s) Name Description R/Wa 15:10 Reserved 9 Cable Diagnostic Through Polarity 1 = Polarity flipped f node	rom transmit node to receive bed from transmit node to	Bit(s): Name Descr 111 = 110 = 101 = 011 = 010 = 001 =	1.2306.2:0 Estimated signature SQI = 7 (best) SQI = 6 SQI = 5 SQI = 4 SQI = 3 SQI = 2 SQI = 1 SQI = 0 (worst		index (SQI)		
110 = 101 = 100 =			m table row: ^a	RO = Read	l only		
011 = 010 = 001 =		C/ 45 CORDAR	SC 45.2.1. O, Jay	174k	P 41 BROADCOM		# 392
000 = SQi = 0 (w Proposed Response Response Status W	orst)	<i>Comment</i> Add d	••		ment Status D In Cable Diagnostic		able Diagnostics Discuss (1.2305.9)
PROPOSED ACCEPT IN PRINCIPLE.		Suggestee	dRemedv				
Task Force to discuss along with presentation.Consider after	comment #389 is resolved.	Bit 9 i	ndicates if the		he wiring between t ic measurement.	the transmit and	received node is flipped
If accepted, change as proposed is to:			Response POSED ACCEF	,	nse Status W		
Insert Table 45-142k - Through cable diagnostics status regis clause 45.2.1.174.j.2 Cable diagnostics control (1.2305.2:0)	ter bit definitions after new	_			-	nsider after com	ment #389 is resolved.
Bit(s): 1.2306.15:10 Name: Reserved		If acc	epted, change	as propose	d is to:		
Description: Value always 0		If com	nment #391 is a	accepted, ir	nsert new clause af	ter new Table 45	5-142k,
R/W^a: RÓ Bit(s): 1.2306.9		Bit 9 i	ndicates if the	polarity of t	through polarity (1 he wiring between t ic measurement.	.2306.9) the transmit and	received node is flipped
Name: Cable diagnostic through polarity Description: 1 = Polarity flipped from transmit node to receive node 0 = Polarity not flipped from transmit node to receive node R/W^a: RO							

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ **45** SC **45.2.1.174k** Page 11 of 81 5/22/2018 5:27:22 PM

C/ 45 SC 45.2.1.174k P 41 L 44 # 393 CORDARO, Jay BROADCOM BROADCOM <t< th=""><th>C/ 45 SC 45.2.1.174k P 41 L 46 # 394 CORDARO, Jay BROADCOM</th></t<>	C/ 45 SC 45.2.1.174k P 41 L 46 # 394 CORDARO, Jay BROADCOM
Comment Type T Comment Status D Cable Diagnostics Discuss Add description for Transmission Cable Diagnostics estimated correlation peak (1.2305.8:3) SuggestedRemedy	Comment TypeTComment StatusDCable Diagnostics DiscussAdd description for Transmission Cable Diagnostics Estimated Signal Quality Index (1.2305.2:0)(1.2305.2:0)Cable Diagnostics Estimated Signal Quality Index
Bits 8:3 list the correlation peak measured during a through measurement. This indicates the attenuation Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.	SuggestedRemedy Bits 2:0 list the estimated signal quality index for the through cable diagnostic from the transmitted node to the received node based upon the cable diagnostic signal. The estimated signal quality index can be derived by taking the L2 norm of the received cable diagnostics signal. The estimated signal quality may be measured periodically over the lifetime of the harness to determine harness aging and degradation.
Task Force to discuss along with presentation. Consider after comment #389 is resolved. If accepted, change as proposed is to:	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.
If comment #391 is accepted, insert new clause after new 45.2.1.174.k.1 Cable diagnostic through polarity (1.2306.9),	Task Force to discuss along with presentation. Consider after comment #389 is resolved.
45.2.1.174.k.2 Cable diagnostics through peak (1.2306.8:3) Bits 8:3 list the correlation peak measured during a through measurement. This indicates the attenuation.	If comment #391 is accepted, insert new clause after new 45.2.1.174.k.2 Cable diagnostics through peak (1.2306.8:3),
	45.2.1.174.k.3 Estimated signal quality index (SQI) (1.2306.2:0) Bits 2:0 list the estimated signal quality index for the through cable diagnostic from the transmitted node to the received node based upon the cable diagnostic signal. The estimated signal quality index can be derived by taking the L2 norm of the received cable diagnostics signal. The estimated signal quality may be measured periodically over the lifetime of the harness to determine harness aging and degradation.

C/ 45 SC 45.2.1.174k

Cl 45 SC 45.2.3.58c P 45 L 8 # 458 Brandt, David Rockwell Automation Rockwell Automation Rockwell Automation Rockwell Automation	Description: Value always 0 R/W: RO
Comment Type T Comment Status A PLCA 10BASE-T1S PCS control register lacks "PLCA enable" bit and status register lacks "PLCA ability" bit PLCA PLCA	Cl 45 SC 45.2.3.58c P 45 L 35 # 459 Brandt, David Rockwell Automation Rockw
SuggestedRemedy Insert in Table 45-220c: Bit(s): 3.2291.13 Name: PLCA enable Description: 1 = Enable PLCA mode 0 = Disable PLCA mode R/W: R/W Insert in Table 45-220d: Bit(s): 3.2292.13 Name: PLCA ability	Comment Type T Comment Status A PLCA 10BASE-T1S PCS control register lacks "PLCA enable" bit SuggestedRemedy Insert: 45.2.3.58c.3 PLCA enable (3.2291.13) The 10BASE-T1S PCS shall be placed in PLCA mode of operation when bit 3.2291.13 is set to a one. The default value of bit 3.2291.13 is zero. Response Response Status C
Description: 1 = Supports PLCA mode 0 = Does not support PLCA mode R/W: R/O Response Response Status C ACCEPT IN PRINCIPLE. In Table 45-220c, change the reserved row from 3.2291.13:0 to 3.2291.12:0 Insert new bit after row 3.2291.14 Loopback Bit(s): 3.2291.13	ACCEPT IN PRINCIPLE. Insert new clause after 45.2.3.58c.2 Loopback (3.2291.14) 45.2.3.58c.3 PLCA enable (3.2291.13) The 10BASE-T1S PCS shall be placed in PLCA mode of operation when bit 3.2291.13 is set to a one. The default value of bit 3.2291.13 is zero.
Name: PLCA enable Description: 1 = Enable PLCA mode 0 = Disable PLCA mode R/W: R/W In Table 45-220d, change the reserved row from 3.2292.15:12 to 3.2292.15:14 Insert new bit after new reserved row 3.2292.15:14 Bit(s): 3.2292.13	
Name: PLCA ability Description: 1 = Supports PLCA mode 0 = Does not support PLCA mode R/W: RO Insert new reserved row after new 3.2292.13 PLCA ability Bit(s): 3.2292.12 Name: Reserved	
TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/g	neneral <i>CL 15</i> Page 13 of 81

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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C/ 45 SC 45.2.3.58c P 45 L 35 # 460 400 400 400	C/ 45 L 41 # 462 Brandt, David Rockwell Automation Rockwell Automation Rockwell Automation Rockwell Automation
Comment TypeTComment StatusAPLCA10BASE-T1S PCS control register lacks "PLCA reset" bit	Comment Type T Comment Status A PLCA 10BASE-T1S PCS status register lacks PLCA ability bit PLCA PLCA PLCA
SuggestedRemedy Insert:	SuggestedRemedy Insert before 45.2.3.58d.1 and re-number:
 45.2.3.58c.4 PLCA reset (3.2291.12) Resetting the 10BASE-T1S PCS PLCA state is accomplished by setting bit 3.2291.12 to a one. As a consequence, this action may change the internal state of the 10BASE-T1S PCS and the state of the physical link. This bit is self-clearing, and the 10BASE-T1S PCS shall return a value of one in bit 3.2291.12 when a PLCA reset is in progress; otherwise, it shall return a value of zero. NOTE-This operation may interrupt data communication. 	 45.2.3.58d.1 PLCA ability (1.2292.13) When read as one, this bit indicates that the 10BASE-T1S PHY supports PLCA. When read as zero, this bit indicates that the 10BASE-T1S PHY does not support PLCA. <i>Response</i> Response Status C ACCEPT IN PRINCIPLE. Insert new clause before 45.2.3.58d.1 Tx LPI received (3.2292.11) and re-number subsequent clauses. 45.2.3.58d.1 PLCA ability (1.2292.13) When read as a one, this bit indicates that the 10BASE-T1S PHY supports PLCA. When read as a zero, this bit indicates that the 10BASE-T1S PHY does not support PLCA.
Response Response Status C ACCEPT IN PRINCIPLE.	C/ 45 SC 45.2.3.58e.1 P 47 L 35 # 466 Brandt, David Rockwell Automation Roc
Insert new clause after new 45.2.3.58c.3 PLCA enable (3.2291.13) 45.2.3.58c.4 PLCA reset (3.2291.12) Resetting the 10BASE-T1S PCS PLCA state is accomplished by setting bit 3.2291.12 to a one. As a consequence, this action may change the internal state of the 10BASE-T1S PCS and the state of the physical link. This bit is self-clearing, and the 10BASE-T1S PCS shall return a value of one in bit 3.2291.12 when a PLCA reset is in progress; otherwise, it shall return a value of zero.	Comment Type T Comment Status A EZ Missing definition SuggestedRemedy PCS_status is not defined in 147.3.7.1, nor anywhere else in the draft. EZ Response Response Status C ACCEPT IN PRINCIPLE. E
NOTE-This operation may interrupt data communication.	Delete, This bit is a reflection of the PCS_status variable defined in 147.3.7.1.

C/ 45 SC 45.2.3.58e.2 P 47 / 41 # 467 C/ 45 SC 45.2.3.58g P 45 L 39 # 382 Brandt, David **Rockwell Automation** CORDARO, Jay BROADCOM Comment Type т Comment Status A F7 Comment Type TR Comment Status D OAM Discuss Delete OAM registers 3.2296,3.2297,3.3.2298 Missing definition SuggestedRemedv SuggestedRemedv hi rfer is not defined in 147.3.7.1, nor anywhere else in the draft. Delete OAM registers 3.2296,3.2297,3.3.2298 from Table Table 45-220g Proposed Response Response Response Status C Response Status W PROPOSED ACCEPT IN PRINCIPLE. ACCEPT. Delete. Task Force to discuss retaining OAM but cutting it to one register. Currently, there is no OAM channel in clause 147. This bit is a reflection of the state of the hi_rfer variable defined in 147.3.7.1. C/ 45 SC 45.2.3.58e.3 P 47 / 47 # 468 Editor proposes to delete entire register. Brandt, David **Rockwell Automation** Note: Change as proposed is to: Comment Type T Comment Status A ΕZ Missing definition If comment #383 is accepted, delete the rows for the following bits from Table 45-220g: SuggestedRemedy 3.2296.15:8 block lock is not defined in 147.3.7.1, nor anywhere else in the draft. 3.2296.7:0 3.2297.15:8 Response Status C Response 3.2297.7:0 ACCEPT IN PRINCIPLE. 3.2298.15:8 3.2298.7:0 Delete. This bit is a reflection of the state of the block lock variable defined in 147.3.7.1. C/ 45 SC 45.2.3.58e.6 P 48 L14 # 469 Brandt, David **Rockwell Automation** Comment Type Comment Status A F7 т Missing definition SuggestedRemedy RFER count is not defined in 147.3.7.2, nor anywhere else in the draft. Response Response Status C ACCEPT IN PRINCIPLE. Delete. The BER counter formed by bits 3.2293.5:0 is a six bit count as defined by RFER_count in 147.3.7.2.

I Management Parameters for 10 Mb/s Operation over Single Balanced Twisted-pair Cabling and Associat

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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C/ 45 SC 45.2.3.58g P 50 L 27 # 383 CORDARO, Jay BROADCOM BROADCOM <td< td=""><td>C/ 45 SC 45.2.3.58h P 51 L 24 # 385 CORDARO, Jay BROADCOM</td></td<>	C/ 45 SC 45.2.3.58h P 51 L 24 # 385 CORDARO, Jay BROADCOM
Comment Type TR Comment Status D OAM Discuss Delete OAM registers 3.2296,3.2297,3.3.2298 OAM Discuss OAM Discuss	Comment Type TR Comment Status D OAM Discuss Change description for 45.2.3.58h.1
SuggestedRemedy 45.2.3.58g 10BASE-T1S OAM message register (Register 3.2295) The 10BASE-T1S OAM message register contains the 2 octet 10BASE-T1S OAM message data to be transmitted. The 8 octet message data is user defined and its definition is outside the scope of this standard. See Table 45-220g.	SuggestedRemedyBit 3.2299.15 shall be set to one when the 10BASE-T1S OAM message from the link partner is stored into registers 3.2300 and the message number in 3.2299.11:8. This register shall be cleared when register 3.2303 is read.Proposed ResponseResponse StatusW
Proposed Response Response Status W	PROPOSED ACCEPT IN PRINCIPLE.
PROPOSED ACCEPT IN PRINCIPLE.	Task Force to discuss retaining OAM but cutting it to one register. Currently, there is no OAM channel in clause 147.
Task Force to discuss retaining OAM but cutting it to one register. Currently, there is no OAM channel in clause 147.	Editor proposes to delete entire register.
Editor proposes to delete entire register.	Note: Change as proposed is to:
Note: Change as proposed is to:	In clause 45.2.3.58h.1 Link partner 10BASE-T1S OAM message valid (3.2299.15) replace,
In clause title, change from,	is stored into registers 3.2300, 3.2301, 3.2302, and 3.2303
(Registers 3.2295 to 3.2298)	with,
to, (Register 3.2295)	is stored into registers 3.2300
On line 29, change from, 8 octet 10BASE-T1S OAM	
to	

to, 2 octet 10BASE-T1S OAM

C/ 45 SC 45.2.3.58h

C/ 45 SC 45.2.3.58i CORDARO, Jay	P 51 BROADCOM	L1	# 386	C/ 45 Cordaro	SC 45.2.3.58 , Jay	i P51 BROADCOM	L 44 Л	# 387
and take out OAM register SuggestedRemedy Bit(s) Name Description 3.2300.15:8 Link partner first. RO 3.2300.7:0 Link partner first. RO Proposed Response PROPOSED ACCEPT IN Task Force to discuss re OAM channel in clause 1 Editor proposes to delete Note: Change as propose If comment #385 is acce 3.2301.15:8 3.2301.7:0 3.2302.15:8 3.2303.7:0 Swap positions of Table	10BASE-T1S OAM message 10BASE-T1S OAM message <i>Response Status</i> W N PRINCIPLE. taining OAM but cutting it to c 47.	oks like: e 1 Message octo e 0 Message octo one register. Curr following bits from	et 1. LSB received et 0. LSB received rently, there is no	SuggestedF 45.2.3.5 The link OAM m data fro assignm bits in th Proposed F PROPO Task Fo OAM ch Editor p Note: C If comm (Registe to, (Registe 8 octet to,	e text to read as Remedy 58i Link partner k partner 10BAS tessage om the link partner the Link partner Response DSED ACCEPT orce to discuss hannel in clause proposes to dele	10BASE-T1S OAM message GE-T1S OAM message register. Bit 3.2299.15 shall be cl 10BASE-T1S OAM message <i>Response Status</i> W IN PRINCIPLE. The entire register. The entire register.	ster contains the leared when regis ge register bit is s to one register.	2 octet 10BASE-T1S ster 3.2303 is read. The shown in.Table 45-220i
						d of the sentence on line 48.		

C/ **45** SC **45.2.3.58i**

Cl 45 SC 45.5 Zimmerman, George	P 53 CME Consult	L 1 ing et al	# 401		C/ 45 SC Table 4 CORDARO, Jay	45-220i-	P 52 BROADCOM	L1	# 384
Comment Type E PICS for clause 45 need	Comment Status A completing			EZ	Comment Type TR (editorial) Table 45-2 220h) & (technical) C	20i- Change ta			OAM Discuss s position with table 45-
ACCEPT.	changes in clause 45 <i>Response Status</i> C e with Curtis Donahue to de	evelop PICS for	⁻ clause 45.		SuggestedRemedy 3.2299.15 Link partn This bit is used to ind 3.2299.11:8, 3.2300, This bit shall self clear read. 1 = Message data in 0 = Message data in RO, SC Proposed Response PROPOSED ACCEF Task Force to discuss OAM channel in clau Editor proposes to de Note: Change as pro- If comment #385 is a follows: Bit(s): 3.2299.15 Name: Link partner Description: This bit	er 10BASE-T1 dicate message are stored and ar when register registers are v registers are r <i>Response</i> PT IN PRINCIP as retaining OA ise 147. elete entire reg posed is to: accepted, repla	S OAM message v e data in registers d ready to be read. er 3.2317 is valid hot valid e <i>Status</i> W PLE. M but cutting it to o gister. ace the row for 3.22 DAM message valid cate message data d ready to be read. valid	valid one register. 299.15 in origin d in registers	-

Cl 78 SC 78 Graber, Steffen	P 55 Pepperl+Fuchs	L 1 s GmbH	# 344	<i>Cl</i> 98 Bains, Am	SC 5.6 rik	P 61 Cisco System	L 25	# 493	
EEE Timing Parameters miss	omment Status A sing		E		98-11 shows E	Comment Status D DME speed selection, and then 7. This is not shown on figure 98		tion done" signal sh	<i>Late</i> ould
SuggestedRemedy Please replace chapter by tex presentation "10BASE-T1L E	01	0,	hernet.pdf" (see also	Suggested	Remedy	n done" to Figure 98-7 next to p			
Response Res ACCEPT IN PRINCIPLE.	sponse Status C			Proposed REJE	,	Response Status Z			
Insert text from http://www.ieee802.org/3/cg/ clause	public/May2018/Energy	%20Efficient%2	0Ethernet.pdf into	This c	omment was W	ITHDRAWN by the commenter	:		
C/ 78 SC 78.1.4	P 55 CME Consultir	L 4	# 402		SC 5.6 rik	P 61 Cisco System	L 48	# 492	
omment Type T Co 10BASE-T1L needs to be de EEE)	omment Status A efined for EEE as per the	e objectives. (10		ly signal.	ne selection of	Comment Status D high/low speed selection, Figure ectiing speed operation for the eed.			
uggestedRemedy Bring 78.1.4 and Table 78-1 i	into draft, and insert 10F	3ASE-T1I clau	ise 146 as now first	Suggested	-	AF outo possibilition dono"			
(content) row, above 10BASE for 10BASE-T1L (leave value draft and insert new first row	E-Te. Bring 78.2 and Ta es TBD for now). Simila	able 78-2 into dr arly, bring 78.5 a	aft, and new first row	Proposed	Response	IE auto_negotiation done" Response Status Z			
for 10BASE-T1L (leave value draft and insert new first row	E-Te. Bring 78.2 and Ta es TBD for now). Simila	able 78-2 into dr arly, bring 78.5 a	aft, and new first row	Proposed REJEC	Response CT.	-			
for 10BÁSE-T1L (leave value draft and insert new first row Response Res	E-Te. Bring 78.2 and Ta es TBD for now). Simila for 10BASE-T1L with va sponse Status C	able 78-2 into dr arly, bring 78.5 a	aft, and new first row	Proposed REJEC This c	Response CT. omment was W SC 98.2.1.1	Response Status Z ITHDRAWN by the commenter .2 P 55	L 15	# 470	
for 10BÁSE-T1L (leave value draft and insert new first row <i>Response Res</i> ACCEPT IN PRINCIPLE. No change required. Resolve 7 98 SC 5.2 ains, Amrik	E-Te. Bring 78.2 and Ta as TBD for now). Simila for 10BASE-T1L with va sponse Status C ad by comment #344. P 59 Cisco System	able 78-2 into dr arly, bring 78.5 a	aft, and new first row and Table 78-4 into # 491	Proposed REJEC This co C/ 98 Brandt, Da Comment	Response CT. omment was W SC 98.2.1.1 vid Type E	Response Status Z	L 15 mation		ntoNeg
for 10BÁSE-T1L (leave value draft and insert new first row esponse Res ACCEPT IN PRINCIPLE. No change required. Resolve / 98 SC 5.2 ains, Amrik	E-Te. Bring 78.2 and Ta as TBD for now). Simila for 10BASE-T1L with va aponse Status C ad by comment #344. P 59 Cisco System amment Status A	able 78-2 into dr arly, bring 78.5 a alues TBD.	aft, and new first row and Table 78-4 into # 491	Proposed REJEC This co C/ 98 Brandt, Da Comment Undefi Suggested	Response CT. Domment was W SC 98.2.1.1 vid Type E ned terms "in h	Response Status Z THDRAWN by the commenter .2 P 55 Rockwell Autor Comment Status D igh speed mode" and "in low sp	L 15 mation beed mode"	- Au	0
for 10BÁSE-T1L (leave value draft and insert new first row <i>lesponse</i> Res ACCEPT IN PRINCIPLE. No change required. Resolve 7 98 SC 5.2 ains, Amrik <i>comment Type</i> E Co Original clause 98.5.2 has "N	E-Te. Bring 78.2 and Ta as TBD for now). Simila for 10BASE-T1L with va sponse Status C ad by comment #344. P 59 Cisco System omment Status A lote:" on line 26 but has	able 78-2 into dr arly, bring 78.5 a alues TBD.	aft, and new first row and Table 78-4 into # 491	Proposed REJEC This cr C/ 98 Brandt, Da Comment Undefin ate Suggested "for 10 Proposed	Response CT. SC 98.2.1.1 vid Type E ned terms "in h Remedy 0BASE-T1 or 1 Response	Response Status Z THDRAWN by the commenter .2 P 55 Rockwell Autor Comment Status D	L 15 mation beed mode"	- Au	Ū
for 10BÁSE-T1L (leave value draft and insert new first row esponse Res ACCEPT IN PRINCIPLE. No change required. Resolve 98 SC 5.2 ains, Amrik comment Type E Co Original clause 98.5.2 has "N uggestedRemedy Add" Note:" on start of line 25	E-Te. Bring 78.2 and Ta as TBD for now). Simila for 10BASE-T1L with va sponse Status C ad by comment #344. P 59 Cisco System omment Status A lote:" on line 26 but has	able 78-2 into dr arly, bring 78.5 a alues TBD.	aft, and new first row and Table 78-4 into # 491	Proposed REJEC This c C/ 98 Brandt, Da Brandt, Da Comment Undefi Suggested "for 10 Proposed REJEC	Response CT. SC 98.2.1.1 vid Type E ned terms "in h Remedy 0BASE-T1 or 1 Response CT.	Response Status Z THDRAWN by the commenter .2 P 55 Rockwell Autor Comment Status D igh speed mode" and "in low sp 000BASE-T1" and "for 10BASE Response Status Z	L 15 mation Deed mode" E-T1L and 10	- Au	Ū
for 10BÁSE-T1L (leave value draft and insert new first row Response Res ACCEPT IN PRINCIPLE. No change required. Resolve Cl 98 SC 5.2 Bains, Amrik Comment Type E Co Original clause 98.5.2 has "N SuggestedRemedy Add" Note:" on start of line 25 Response Res	E-Te. Bring 78.2 and Ta as TBD for now). Simila for 10BASE-T1L with va sponse Status C ad by comment #344. P 59 Cisco System omment Status A lote:" on line 26 but has 5 sponse Status C	able 78-2 into dr arly, bring 78.5 a alues TBD. <i>L</i> 26 been removed	aft, and new first row and Table 78-4 into # 491	Proposed REJEC This c C/ 98 Brandt, Da Comment Undefi Suggested "for 10 Proposed REJEC This c	Response CT. SC 98.2.1.1 vid Type E ned terms "in h Remedy 0BASE-T1 or 1 Response CT.	Response Status Z THDRAWN by the commenter .2 P 55 Rockwell Autor Comment Status D igh speed mode" and "in low sp 000BASE-T1" and "for 10BASE	L 15 mation beed mode" E-T1L and 100	- Au	0

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 98 SC 98.2.1.1.3 P 57 L 30 # 49 Graber, Steffen Pepperl+Fuchs GmbH	90	C/ 98 Graber, Steff	SC 98.5.2 en	2	<i>Р</i> 58 Рерре	<mark>3</mark> erl+Fuchs G	L 37 imbH	# 345	
Comment Type T Comment Status D A new start delimiter is needed. See presentation "Auto-Negotiation Start Delimi	<i>Late</i> iter.pdf".	Comment Ty If T[4] bit			Comment Status er duration is set a				EZ
SuggestedRemedy Insert clause 98.2.1.1.3 with change marks from,		SuggestedRe If T[4] bit is)		the time	er duration will be	set as . (ad	ld comma and	d use will be inste	ad of
"The page is preceded by a unique Start Delimiter consisting of a 26 × T1 seque includes multiple DME transition violations. For a Start Delimiter starting with a 0 to +1 transition, sequence is:	the bit		IN PRINC 'If T[4] bit i	IPLE.	Response Status		to "If T[4] is 1	1, the timer durati	ion is"
+1 -1 +1 +1 -1 -1 +1 -1 -1 -1 -1 +1 -1 +1 -1 -1 -1 -1 -1 +1 +1 -1 -1 -1 +1 +1 -1 +1 -1 +1 -1 +1 -1 +1 -1 +1 -1 +1 -1 +1 -1 +1 -1 +1 -1 +1 +1 -1 +1 +1 -1 +1 +1 -1 +1 +1 +1 -1 +1 +1 +1 +1 +1 +1 +1 +1 +1 +1 +1 +1 +1	+1."	C/ 98 Graber, Steff	SC 98.5.2 en	2	P 58 Peppe	3 erl+Fuchs G	L 37 imbH	# 346	
"The page is preceded by a unique Start Delimiter consisting of a 26 × T1 seque includes multiple DME transition violations.	ence that	Comment Ty If T[4] bit			<i>Comment Status</i> or duration is set a				ΕZ
For a Start Delimiter starting with a 0 to +1 transition, the bit sequence for high s Negotiation mode is: +1 –1 +1 +1 –1 –1 +1 –1 –1 –1 +1 –1 +1 –1 –1 –1 –1 +1 +1 –1 –1 –1 +1 –1 +		SuggestedRe	emedy		er duration will be		ld comma and	d use will be inste	ad of
For a Start Delimiter starting with a 0 to +1 transition, the bit sequence for low sp Negotiation mode is: +1 -1 +1 -1 +1 -1 +1 +1 -1 +1 +1 -1 +1 +1 -1 +1 -1 +1 -1 +1 -1 +1 +1 -1		Response ACCEPT	IN PRINC	IPLE.	Response Status Change "If T[4] bit		ne timer durat	ion is set as" to "I	lf T[4]
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.		C/ 98 Graber, Steff	SC 98.5.2 en	2	<i>Р</i> 58 Рерре	} erl+Fuchs G	L 44 imbH	# 194	
Deferred.		Comment Ty	pe T	(Comment Status	Α		AutoNeg_	_timers
C/ 98 SC 98.5.2 P 58 L 34 # 24 Graber, Steffen Pepperl+Fuchs GmbH	97	blind_tim SuggestedRe							
Comment Type T Comment Status A Auto	oNeg_timers	00	-	(referer	nce that this timer	is used in h	nigh speed Au	ito-Negotiation m	ode)
backoff_timer SuggestedRemedy		Response ACCEPT			Response Status	С			
backoff_timer_[HSM] (reference that this timer is used in high speed Auto-Nego mode)	tiation	•	'blind_time references		lind_timer_[HSM]'	and updat	e subsequent	text and state	
Response Response Status C ACCEPT IN PRINCIPLE.		ulagrafii	references						
Change "backoff_timer" to "backoff_timer_[HSM]" and update subsequent text a diagram references.	and state								
TYPE: TR/technical required ER/editorial required GR/general required T/technica	l E/editorial G/g	anaral				CI 98		Page 20 c	of 81

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SC 9	98.5.2

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C/ 98 SC 98.5.2 Graber, Steffen	2 P 58 Pepperl+Fuch	L 47 ns GmbH	# 196	<i>Cl</i> 98 Graber, Ste	SC 98.5.2	P 59 Pepperl+Fuc	L 5 chs GmbH	# 198
Comment Type T clock_detect_max_t	Comment Status A		AutoNeg_timers	Comment T data_d	<i>Type</i> T etect_max_time	Comment Status A		AutoNeg_timers
SuggestedRemedy clock_detect_max_1 Negotiation mode)	timer_[HSM] (reference that this	timer is used in	high speed Auto-	_	-	r_[HSM] (reference that this	timer is used in	high speed Auto-
Response ACCEPT IN PRINC	Response Status C			Response ACCEF	PT IN PRINCIPL	Response Status C E.		
	ect_max_timer" to "clock_detect_ d state diagram references.	_max_timer_[HS	SM]" and update	Chang referen	_	timer_[HSM]" and update	e subsequent text	and state diagram
C/ 98 SC 98.5.2 Braber, Steffen	2 P 58 Pepperl+Fuch	L 47 ns GmbH	# 195	<i>Cl</i> 98 Graber, Ste	SC 98.5.2	P 59 Pepperl+Fuc	L 10 chs GmbH	# 199
<i>comment Type</i> T break_link_timer	Comment Status A		AutoNeg_timers	Comment T data_d	<i>Type</i> T etect_min_time	Comment Status A		AutoNeg_timers
uggestedRemedy break_link_timer_[H mode)	HSM] (reference that this timer is	s used in high sp	eed Auto-Negotiation		-	·_[HSM] (reference that this	timer is used in h	nigh speed Auto-
Response ACCEPT IN PRINC	Response Status C CIPLE.			Response	PT IN PRINCIPL	Response Status C E.		
ACCEPT IN PRINC	CIPLE.	SM]" and update	subsequent text and	Response ACCEF	PT IN PRINCIPL		subsequent text	and state diagram
ACCEPT IN PRINC Change "break_link state diagram refere 9 98 SC 98.5.2	CIPLE. <_timer" to "break_link_timer_[HS ences.	L 1	subsequent text and # 197	Response ACCEF Chang	PT IN PRINCIPL = "timer" to ". ces. SC 98.5.2	.E.	L 15	and state diagram # [200
ACCEPT IN PRINC Change "break_link state diagram refere / 98 SC 98.5.2 raber, Steffen	CIPLE. <_timer" to "break_link_timer_[HS ences. 2 P 59 Pepperl+Fuch Comment Status A	L 1		Response ACCEF Chang referen	PT IN PRINCIPL e "timer" to ". ces. SC 98.5.2 offen Type T	E. timer_[HSM]" and update P 59	L 15	
ACCEPT IN PRINC Change "break_link state diagram refere 98 SC 98.5.2 Graber, Steffen Comment Type T clock_detect_min_ti SuggestedRemedy	CIPLE. <_timer" to "break_link_timer_[HS ences. 2 P 59 Pepperl+Fuch Comment Status A	L 1 ns GmbH	# 197 AutoNeg_timers	Response ACCEF Chang referen C/ 98 Graber, Ste Comment interva Suggested	PT IN PRINCIPL = "timer" to ". ces. SC 98.5.2 offen Fype T _timer Remedy	E. timer_[HSM]" and update <i>P</i> 59 Pepperl+Fuc	L 15 chs GmbH	# 200 AutoNeg_timers
ACCEPT IN PRINC Change "break_link state diagram refere 98 SC 98.5.2 traber, Steffen comment Type T clock_detect_min_ti uggestedRemedy clock_detect_min_ti Negotiation mode)	CIPLE. s_timer" to "break_link_timer_[HS ences. 2 P 59 PepperI+Fuch Comment Status A timer timer_[HSM] (reference that this Response Status C	L 1 ns GmbH	# 197 AutoNeg_timers	Response ACCER Chang referen C/ 98 Graber, Ste Comment 7 interva Suggested interva mode) Response	PT IN PRINCIPL = "timer" to ". ces. SC 98.5.2 offen Fype T _timer Remedy	E. timer_[HSM]" and update P 59 PepperI+Fuc Comment Status A reference that this timer is u Response Status C	L 15 chs GmbH	# 200 AutoNeg_timers
Change "break_link state diagram refere Cl 98 SC 98.5.2 Graber, Steffen Comment Type T clock_detect_min_ti SuggestedRemedy clock_detect_min_ti Negotiation mode) Response ACCEPT IN PRINC Change "clock_detet	CIPLE. s_timer" to "break_link_timer_[HS ences. 2 P 59 PepperI+Fuch Comment Status A timer timer_[HSM] (reference that this Response Status C	<i>L</i> 1 ns GmbH timer is used in	# 197 AutoNeg_timers	Response ACCER Chang referen C/ 98 Graber, Ste Comment interva Suggested interva mode) Response ACCER	PT IN PRINCIPL e "timer" to ". ces. SC 98.5.2 offen fype T _timer Remedy _timer_[HSM] (PT IN PRINCIPL e "timer" to ".	E. timer_[HSM]" and update P 59 PepperI+Fuc Comment Status A reference that this timer is u Response Status C	L 15 chs GmbH sed in high speed	# 200 AutoNeg_timers

SORT ORDER: Clause, Subclause, page, line

C/ 98 SC 98.5.2 Graber, Steffen	Р 59 Pepperl+Fuch	<i>L</i> 19 s GmbH	# 201	C/ 98 SC 98.5.2 Graber, Steffen	P 59 Pepperl+Fucl	<i>L</i> 35 hs GmbH	# 204
Comment Type T link_fail_inhibit_timer	Comment Status A		AutoNeg	Comment Type T rx_wait_timer	Comment Status A		AutoNeg_timers
position of the docume autoneg mode, but on	e explanation, and the associa ent (as this timer is not depend the selected PHY type and th osition of the document by a la <i>Response Status</i> C	ding on high spee e associated trai	ed or low speed	mode) Response ACCEPT IN PRINCIF Change "timer" to	(reference that this timer is us <i>Response Status</i> C PLE. "timer_[HSM]" and update		-
C/ 98 SC 98.5.2 Graber, Steffen	P 59 Pepperl+Fuch	L 28 s GmbH	# 202	C/ 98 SC 98.5.2 Graber, Steffen	P 59 Pepperl+Fucl	L 40 hs GmbH	# 205
Comment Type T page test_max_timer	Comment Status A		AutoNeg_timers	Comment Type T silent_timer	Comment Status A		AutoNeg_timers
SuggestedRemedy page_test_max_timer_ Negotiation mode)	[HSM] (reference that this tim	ier is used in hig	h speed Auto-	SuggestedRemedy silent_timer_[HSM] (r	eference that this timer is use	d in high speed A	Auto-Negotiation mode)
Response ACCEPT IN PRINCIPI	Response Status C LE.			Response ACCEPT IN PRINCIF	Response Status C PLE.		
Change "timer" to " references.	timer_[HSM]" and update s	subsequent text	and state diagram	Change "timer" to references.	"timer_[HSM]" and update	subsequent text	and state diagram
C/ 98 SC 98.5.2 Graber, Steffen	P 59 Pepperl+Fuch	L 32 s GmbH	# 203	C/ 98 SC 98.5.2 Graber, Steffen	P 59 Pepperl+Fucl	L 45 hs GmbH	# 206
Comment Type T receive_DME_timer	Comment Status A		AutoNeg_timers	Comment Type T backoff_timer	Comment Status A		AutoNeg_timers
	HSM] (reference that this time	r is used in high	speed Auto-	SuggestedRemedy backoff_timer_[LSM]	(reference that this timer is us	ed in low speed	Auto-Negotiation mode)
Negotiation mode) Response	Response Status C			Response ACCEPT IN PRINCIF	Response Status C PLE.		
ACCEPT IN PRINCIPI				Change "timer" to	"timer_[LSM]" and update		

TYPE: TR/technical required ER/editorial required GR/gener	al required T/technical E/editorial G/general	C/ 98	Page 22 of 81
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 98.5.2	5/22/2018 5:27:22 PM
SORT ORDER: Clause, Subclause, page, line			

Graber, Steffen	P 59 Pepperl+Fuch	<i>L</i> 48 ns GmbH	# 347	C/ 98 Graber,	SC 98.5. Steffen		P 59 Pepperl+Fuc	<i>L</i> 50 hs GmbH	# 348
Comment Type E Comment Type I E Comment Type E Comment If T[4] bit is 1 then the timer	Comment Status A duration is set as .			EZ Commer If T[51	Comment States the timer duration is			EZ
SuggestedRemedy If T[4] bit is 1, then the timer is)	r duration will be set as .	. (add comma an	d use will be instead	00	edRemedy 4] bit is 0, then	the timer duration w	vill be set as	. (add comma a	nd use will be instead of
Response Re	esponse Status C			Respons	e	Response Sta	atus C		
ACCEPT IN PRINCIPLE. Change "If T[4] bit is 1 then "If T[4] is 1, the timer duratic		t as" to				CIPLE. Change "If T per duration is"	[4] bit is 0 th	en the timer dura	ation is set as" to
				C/ 98	SC 98.5.	2	P 60	L 1	# 208
C/ 98 SC 98.5.2	P 59	L 48	# 207	Graber,	Steffen	F	Pepperl+Fuc	hs GmbH	
Graber, Steffen	Pepperl+Fuch	ns GmbH		Comme	nt Type T	Comment St	atus A		AutoNeg_timers
Comment Type T Co	Comment Status A		Auto		l timer				
If T[1] bit in 1 than the times	dunation is not on (4 457	40	(no) (nondono inter						
If T[4] bit is 1 then the timer from 0 to 15) \times (18728 ns to If T[4] bit is 0 then the timer	o 19788 ns).		, (0	Suggest	edRemedy I_timer_[LSM]	(reference that this t	timer is used	d in low speed Au	uto-Negotiation mode)
from 0 to 15) × (18728 ns to	o 19788 ns). duration is set as (1553		, (0	er blind	I_timer_[LSM]	(reference that this t Response Sta		d in low speed Au	uto-Negotiation mode)
from 0 to 15) × (18728 ns to If T[4] bit is 0 then the timer	o 19788 ns). duration is set as (1553		, (0	er blind Respons	I_timer_[LSM]	Response Sta		l in low speed Au	ito-Negotiation mode)
from 0 to 15) × (18728 ns to If T[4] bit is 0 then the timer from 0 to 15) × (18728 ns to SuggestedRemedy If T[4] bit is 1 then the timer from 0 to 15) × (20868 ns to If T[4] bit is 0 then the timer	o 19788 ns). duration is set as (1553 o 19788 ns). duration is set as (1456 o 24068 ns). duration is set as (1569	641 ns to 158541 668 ns to 148868 102 ns to 160102	ns) + (random integ ns) + (random integ ns) + (random integ	Suggest er blind Respons ACC er ACC er Cha er refe	L_timer_[LSM] se EPT IN PRIN	Response Sta	atus C	·	<u> </u>
from 0 to 15) × (18728 ns to If T[4] bit is 0 then the timer from 0 to 15) × (18728 ns to SuggestedRemedy If T[4] bit is 1 then the timer from 0 to 15) × (20868 ns to If T[4] bit is 0 then the timer from 0 to 15) × (20868 ns to	o 19788 ns). duration is set as (1553 o 19788 ns). duration is set as (1456 o 24068 ns). duration is set as (1569 o 24068 ns). (see presen	641 ns to 158541 668 ns to 148868 102 ns to 160102	ns) + (random integ ns) + (random integ ns) + (random integ	Suggest er blind Respons ACC er ACC er Cha er refe	L_timer_[LSM] se :EPT IN PRING nge "timer"	Response Sta CIPLE. to "timer_[LSM]"	atus C	·	<u> </u>
from 0 to 15) \times (18728 ns to If T[4] bit is 0 then the timer from 0 to 15) \times (18728 ns to SuggestedRemedy If T[4] bit is 1 then the timer from 0 to 15) \times (20868 ns to If T[4] bit is 0 then the timer from 0 to 15) \times (20868 ns to Response Response	o 19788 ns). duration is set as (1553 o 19788 ns). duration is set as (1456 o 24068 ns). duration is set as (1569 o 24068 ns). (see presen esponse Status C	641 ns to 158541 668 ns to 148868 902 ns to 160102 1tation "10BASE-"	ns) + (random integ ns) + (random integ ns) + (random integ T1L Auto-Negotiatio	er blind Respons er Cha er cfe n") C/ 98 Graber	L_timer_[LSM] se EEPT IN PRING nge "timer" rences. SC 98.5.	Response Sta CIPLE. to "timer_[LSM]" 	atus C and update	subsequent text	and state diagram
from 0 to 15) \times (18728 ns to If T[4] bit is 0 then the timer from 0 to 15) \times (18728 ns to SuggestedRemedy If T[4] bit is 1 then the timer from 0 to 15) \times (20868 ns to If T[4] bit is 0 then the timer from 0 to 15) \times (20868 ns to Response Re ACCEPT IN PRINCIPLE. CI ns to 148912 ns) + (random If T[4] bit is 0 then the timer	2 19788 ns). 2 duration is set as (1553- 2 19788 ns). 3 duration is set as (1456- 2 24068 ns). 4 duration is set as (1569- 2 24068 ns). (see presen- 2 24068 ns). (see presen- 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	641 ns to 158541 668 ns to 148868 902 ns to 160102 902 ntation "10BASE- en the timer durat (18728 ns to 197	ns) + (random integ ns) + (random integ ns) + (random integ T1L Auto-Negotiatio tion is set as (14571. 88 ns).	Suggest er blind Respons ACC er Cha er refe n") C/ 98 2 Graber, 2 Comme	L_timer_[LSM] se EPT IN PRING nge "timer" rences. SC 98.5. Steffen	Response Sta CIPLE. to "timer_[LSM]" 	atus C and update P60 Pepperl+Fuc	subsequent text	and state diagram
from 0 to 15) × (18728 ns to If T[4] bit is 0 then the timer from 0 to 15) × (18728 ns to SuggestedRemedy If T[4] bit is 1 then the timer from 0 to 15) × (20868 ns to If T[4] bit is 0 then the timer from 0 to 15) × (20868 ns to Response Re ACCEPT IN PRINCIPLE. CI ns to 148912 ns) + (random	2 19788 ns). 2 duration is set as (1553- 2 19788 ns). 3 duration is set as (1456- 2 24068 ns). 4 duration is set as (1569- 2 24068 ns). (see presen- 2 24068 ns). (see presen- 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	641 ns to 158541 668 ns to 148868 902 ns to 160102 902 ntation "10BASE- en the timer durat (18728 ns to 197	ns) + (random integ ns) + (random integ ns) + (random integ T1L Auto-Negotiatio tion is set as (14571. 88 ns).	Suggest er blind Respons er Cha er refe n") C/ 98 2 Graber, 2 Comment er 187	L_timer_[LSM] se EEPT IN PRING nge "timer" rences. SC 98.5. Steffen nt Type T 28 ns	Response Sta CIPLE. to "timer_[LSM]" 2	atus C and update P60 Pepperl+Fuc	subsequent text	and state diagram # [209
from 0 to 15) × (18728 ns to If T[4] bit is 0 then the timer from 0 to 15) × (18728 ns to SuggestedRemedy If T[4] bit is 1 then the timer from 0 to 15) × (20868 ns to If T[4] bit is 0 then the timer from 0 to 15) × (20868 ns to Response Re ACCEPT IN PRINCIPLE. Cl ns to 148912 ns) + (random If T[4] bit is 0 then the timer from 0 to 15) × (18728 ns to	 b) 19788 ns). c) duration is set as (1553- c) 19788 ns). c) duration is set as (14560- c) 24068 ns). c) duration is set as (15690- c) 24068 ns). (see present esponse Status C hange "If T[4] bit is 1 the integer from 0 to 15) × (c) duration is set as (1553- c) 19788 ns)." 	441 ns to 158541 668 ns to 148868 02 ns to 160102 ntation "10BASE- en the timer durat (18728 ns to 197 441 ns to 158541	ns) + (random integ ns) + (random integ ns) + (random integ T1L Auto-Negotiatio tion is set as (14571 88 ns). ns) + (random integ	Suggest er blind Respons ACC er Cha er refe of Cl 98 Graber, Cl 98 Graber, 187 Suggest	L_timer_[LSM] ee EEPT IN PRING ences. SC 98.5. Steffen at Type T 28 ns edRemedy	Response Sta CIPLE. to "timer_[LSM]" 2	atus C and update P60 Pepperl+Fuc atus A	subsequent text <i>L</i> 3 hs GmbH	and state diagram # [209

C/ 98 SC 98.5.2

Graber, Steffen Pepperl+Fuchs GmbH	# 210	C/ 98 SC 98.5.2 Graber, Steffen	P 60 Pepperl+Fucł	L 13 ns GmbH	# 213
Comment Type T Comment Status A break_link_timer	AutoNeg_timers	Comment Type T clock_detect_min_time	Comment Status A		AutoNeg_timers
SuggestedRemedy break_link_timer_[LSM] (reference that this timer is used in low speed Aut mode)	to-Negotiation	SuggestedRemedy clock_detect_min_time Negotiation mode)	r_[LSM] (reference that this	timer is used in lo	ow speed Auto-
Response Response Status C ACCEPT IN PRINCIPLE.		Response ACCEPT IN PRINCIPL	Response Status C E.		
Change "timer" to "timer_[LSM]" and update subsequent text and st references.	tate diagram	Change "timer" to ". references.	timer_[LSM]" and update :	subsequent text a	and state diagram
C/ 98 SC 98.5.2 P 60 L 6 Graber, Steffen Pepperl+Fuchs GmbH	# <u>2</u> 11	C/ 98 SC 98.5.2 Graber, Steffen	P 60 Pepperl+Fucł	L 16 ns GmbH	# 214
Comment Type T Comment Status A The timer shall expire TBD μs to TBD μs after being started.	AutoNeg	Comment Type T data_detect_max_time	Comment Status A		AutoNeg_timers
uggestedRemedy The timer shall expire 300 μs to 305 μs after being started. (see presentat T1L Auto-Negotiation")	ion "10BASE-	SuggestedRemedy data_detect_max_time Negotiation mode)	r_[LSM] (reference that this t	imer is used in lo	ow speed Auto-
Response Response Status C ACCEPT.		Response ACCEPT IN PRINCIPL	Response Status C E.		
C/ 98 SC 98.5.2 P 60 L 9 Graber, Steffen Pepperl+Fuchs GmbH	# 212	Change "timer" to " references.	timer_[LSM]" and update :	subsequent text a	and state diagram
			P 60		-
Comment Type T Comment Status A clock_detect_max_timer	AutoNeg_timers	C/ 98 SC 98.5.2 Graber, Steffen	Pepperl+Fuch	L 22 ns GmbH	# 215
clock_detect_max_timer	-	Graber, Steffen Comment Type T data_detect_min_timer			# 215 AutoNeg_timers
clock_detect_max_timer <i>suggestedRemedy</i> clock_detect_max_timer_[LSM] (reference that this timer is used in low sp Negotiation mode)	-	Graber, Steffen Comment Type T data_detect_min_timer SuggestedRemedy	Pepperl+Fuch	ns GmbH	AutoNeg_timers
clock_detect_max_timer SuggestedRemedy clock_detect_max_timer_[LSM] (reference that this timer is used in low sp Negotiation mode) Response Response Status C	beed Auto-	Graber, Steffen <i>Comment Type</i> T data_detect_min_timer <i>SuggestedRemedy</i> data_detect_min_timer	PepperI+Fuch Comment Status A _[LSM] (reference that this ti Response Status C	ns GmbH	AutoNeg_timers
clock_detect_max_timer SuggestedRemedy clock_detect_max_timer_[LSM] (reference that this timer is used in low sp Negotiation mode) Response Response Status C ACCEPT IN PRINCIPLE. Change "timer" to "timer_[LSM]" and update subsequent text and st	beed Auto-	Graber, Steffen <i>Comment Type</i> T data_detect_min_timer <i>SuggestedRemedy</i> data_detect_min_timer Negotiation mode) <i>Response</i> ACCEPT IN PRINCIPL	PepperI+Fuch Comment Status A _[LSM] (reference that this ti Response Status C	ns GmbH mer is used in lo	AutoNeg_timers

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COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 98.5.2	5/22/2018 5:27:22 PM
SORT ORDER: Clause, Subclause, page, line			

C/ 98 SC 98.5.2 Graber, Steffen	P 60 Pepperl+Fuch	L 27 s GmbH	# 216	C/ 98 SC 98.5 Graber, Steffen	2 P 60 Pepperl+Fuc	<i>L</i> 45 shs GmbH	# 219
Comment Type T C interval_timer	Comment Status A		AutoNeg_timers	Comment Type T page test_max_tir	Comment Status A		AutoNeg_timers
SuggestedRemedy				SuggestedRemedy			
interval_timer_[LSM] (reference)	ence that this timer is use	ed in low speed	Auto-Negotiation mode)		mer_[LSM] (reference that this til	mer is used in lov	v speed Auto-
Response R ACCEPT IN PRINCIPLE.	esponse Status C			Negotiation mode	Response Status C		
Change "timer" to "tin references.	ner_[LSM]" and update s	subsequent text	and state diagram	ACCEPT IN PRIN Change "timer' references.	CIPLE. to "timer_[LSM]" and update	subsequent text	and state diagram
C/ 98 SC 98.5.2 Graber, Steffen	P 60 Pepperl+Fuch	<i>L</i> 30 s GmbH	# 217	C/ 98 SC 98.5 Graber, Steffen	2 P 60 Pepperl+Fuc	<i>L</i> 48 ths GmbH	# 220
Comment Type E C Editor's Note	Comment Status A		EZ	Comment Type T receive_DME_tim	Comment Status A		AutoNeg_timer
SuggestedRemedy Please remove Editor's not	е.			SuggestedRemedy			
Response R ACCEPT.	esponse Status C			receive_DME_tim mode)	er_[LSM] (reference that this time	er is used in low s	speed Auto-Negotiation
Delete Editor's Note on line	s 31-34.			Response ACCEPT IN PRIN	Response Status C		
C/ 98 SC 98.5.2 Graber, Steffen	P 60 Pepperl+Fuch	L 35 s GmbH	# 218		to "timer_[LSM]" and update	subsequent text	and state diagram
Comment Type T C link_fail_inhibit_timer	Comment Status A		AutoNeg	Cl 98 SC 98.5 Graber, Steffen	2 P 60 Pepperl+Fuc	L 49	# 221
SuggestedRemedy Remove this timer, the exp position of the document (a				Comment Type T	Comment Status A bire 145712 ns to 148912 ns afte		AutoNeg
autoneg mode, but on the s reapplied to another positio	elected PHY type and th	e associated tra		SuggestedRemedy			
	esponse Status C			The timer shall ex "10BASE-T1L Aut	pire 145668 ns to 148868 ns afte o-Negotiation")	er being started. (see presentation
ACCEPT.				Response	Response Status C		
				ACCEPT.			

TYPE: TR/technical required ER/editorial required GR/gene	ral required T/technical E/editorial G/general	CI 98	Pa
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 98.5.2	5/
SORT ORDER: Clause, Subclause, page, line			

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C/ 98 SC 98.5.2 Graber, Steffen	P 60 Pepperl+Fuchs	L 52 GmbH	# 222	C/ 98 SC 98 Graber, Steffen	5.3.2	<i>Р</i> 6 1 Рерре	rl+Fuchs Gmb		# 225
Comment Type T rx_wait_timer	Comment Status A		AutoNeg_timers	Comment Type The timer shall		Comment Status		arted.	AutoNeg
Response ACCEPT IN PRINCIPLE		·		SuggestedRemedy The timer shall "10BASE-T1L A Response ACCEPT.	expire 2	20868 ns to 24068 ns gotiation") <i>Response Status</i>	0	arted. (see presen	itation
references.	_timer_[LSM]" and update si	•		C/ 98 SC 98 Graber, Steffen	3.5.2	P 61 Peppe	L rl+Fuchs Gmb		# 226
C/ 98 SC 98.5.2 Graber, Steffen	P 61 Pepperl+Fuchs	L1 GmbH	# 223	Comment Type	т	Comment Status			AutoNeg
Comment Type T	Comment Status A	Children	AutoNea	link_fail_inhibit_	_timer				
51	expire TBD µs to TBD µs after	er being started o		SuggestedRemedy					
presentation "10BASE-T	ζ,	being started or	restarted. (see	the following wa following timer v Timer for qualify	ay: Depe values s ying a lii	the PHY type depen ending on the selecte shall be used: (new lir nk_status=FAIL indica is first being establis	d PHY type, do e) link_fail_inh ation or a link_	one by Auto-Nego nibit_timer_[HCD] status=OK indica	otiation, the (new line) Ition when a
Response ACCEPT.	Response Status C			the link_fail_inh link_status=OK	ibit_tim state. T	er_[HCD] has expired The expiration time of	and the link hat the link_fail_in	as still not gone in hibit_timer_[HCD	nto the)] shall be
C/ 98 SC 98.5.2 Graber, Steffen	P 61 Pepperl+Fuchs	L 5 GmbH	# 224	shall expire 97 r PHY this timer s	ms to 98 shall exp	ted PHY type. For all 8 ms after entering th pire 3030 to 3090 ms	e AN GOOD C after entering	HECK state. For the AN GOOD Cl	a 10BASE-T1L HECK state.
Comment Type T silent_timer	Comment Status A		AutoNeg_timers	partner to comp plus the time re	plete Au equired f	ner expiration value is to-Negotiation after the or the specific techno	local device logy to enter	has completed A	uto-Negotiation
SuggestedRemedy silent_timer_[LSM] (refer	ence that this timer is used	n low speed Auto	o-Negotiation mode)		PHY at m	te. (Remark (not to w naximum starts up in on.)			
Response ACCEPT IN PRINCIPLE	Response Status C			Response ACCEPT IN PR	RINCIPL	Response Status E.	С		
Change "timer" to " references.	_timer_[LSM]" and update si	ibsequent text ar	nd state diagram	Show additions	in sugg	ested remedy in unde	erline.		

C/ 98 SC 98.5.2

CI 98 SC 98.5.6 P 61 L 17 # 227	C/ 98 SC 98.5.6 P 62 L 1 # 229
Graber, Steffen Pepperl+Fuchs GmbH	Graber, Steffen Pepperl+Fuchs GmbH
Comment Type T Comment Status A AutoNeg A PHY supporting only one Auto-Negotiation speed shall implement the behavior shown in Figure 98-12, depending on the supported Auto-Negotiation speed.	Comment Type T Comment Status A AutoNeg Figure 98-12
SuggestedRemedy A PHY supporting only one Auto-Negotiation speed shall implement the behavior as shown	SuggestedRemedy Please remove Figure 98-12. (see presentation "10BASE-T1L Auto-Negotiation")
in Figures 98-7, 98-8, 98-9 and 98-10 without any further modification, using the associated timer values for high speed mode (HSM) or low speed mode (LSM) Auto-Negotiation as described in Clause 98.5.2. (see presentation "10BASE-T1L Auto-Negotiation")	Response Response Status C ACCEPT.
Response Response Status C ACCEPT IN PRINCIPLE. Change "A PHY supporting only one Auto-Negotiation speed	C/ 98 SC 98.5.6.1 P 62 L 22 # 230 Graber, Steffen Pepperl+Fuchs GmbH 230
shall implement the behavior shown in Figure 98-12, depending on the supported Auto- Negotiation speed."	Comment Type T Comment Status A AutoNeg This variable is set by the management entity to restart the Auto-Negotiation process.
 "A PHY supporting only one Auto-Negotiation speed shall implement the behavior as shown in Figures 98-7, 98-8, 98-9 and 98-10 without any further modification, using the associated timer values for high speed mode (HSM) or low speed mode (LSM) Auto-Negotiation as described in 98.5.2. " (deleted "Clause" from suggested remedy) C/ 98 SC 98.5.6 P 61 L 21 # 228 	SuggestedRemedy If two different Auto-Negotiation speeds are implemented and this variable is set to TRUE by the management entity, the state machine described in Figure 98-11 and subsequently also the state machines described in Figures 98-7, 98-8, 98-9 and 98-10 are resetted. If only single speed Auto-Negotiation is implemented, variable mr_main_reset has to be used instead as described in Clause 98.5.1. (see presentation "10BASE-T1L Auto-Negotiation")
Graber, Steffen Pepperl+Fuchs GmbH	Response Response Status C
Comment Type T Comment Status A AutoNeg	ACCEPT IN PRINCIPLE.
Figure 98-11 SuggestedRemedy	On line 22, replace, This variable is set by the management entity to restart the Auto-Negotiation process.
Modify Figure 98-11 according to presentation "10BASE-T1L Auto-Negotiation", slide 9.	With,
Response Response Status C ACCEPT IN PRINCIPLE. Jon Lewis modify Figure 98-11 according to presentation "10BASE-T1L Auto-Negotiation (http://www.ieee802.org/3/cg/public/May2018/Graber 3cg 01a 0418.pdf)", slide 10.	If two different Auto-Negotiation speeds are implemented and this variable is set to TRUE by the management entity, then the state machine described in Figure 98-11 and, subsequently, also the state machines described in Figure 98-7, Figure 98-8, Figure 98-9, and Figure 98-10, are restarted. If only single speed Auto-Negotiation is implemented,
(····+ ································	variable mr_main_reset has to be used instead as described in 98.5.1.

C/ 98 SC 98.5.6.1

C/ 98 SC 98.5.6.1 Graber, Steffen	P 62 Pepperl+Fuch	L 26 ns GmbH	# 231	<i>Cl</i> 98 Graber, St		98.5.6.1	P 62 Pepperl+F	<i>L</i> 28 Fuchs GmbH	# 232
Comment Type T pwr_on_reset (complete s	Comment Status A section)		AutoNeg	<i>Comment</i> Add m		T variables.	Comment Status A		AutoNeg
98.5.1 add in the descrip true until such time as the state diagrams has reach 1000BASE-T1 PMA cont bit 1.2294.11. (see prese	rariable power_on and refer tion for power_on also the e power supply for the devi ned the operating region or rol register bit 1.2304.11 or intation "10BASE-T1L Auto	10BASE-T1L PH ce that contains the device has I via 10BASE-T1	H: Condition that is the Auto-Negotiation ow-power mode set via	afterw mr_m Claus <i>Response</i>	e add th vards in ain_res e 98.5.1	ne following alphabetic et, and an	g variables with reference order): mr_restart_nego link_good (the explanat sentation "10BASE-T1L <i>Response Status</i> C	tiation, mr_autone ion of these variab	g_enable, les is already done in
	Response Status C								
ACCEPT IN PRINCIPLE.				Add th	ne follov	ving variab	les to 98.5.6.1 in alphab	etical order:	
Replace, pwr_on_reset This variable is set to TR	UE for the first cycle after a	applving power t	o initiate the Auto-	mr_re See 9		egotiation			
Negotiation process. Values: TRUE or FALSE	-			an_lin See 9	k_good 8.5.1.				
With, power_on See 98.5.1.				mr_m See 9	ain_res 8.5.1.	et			
	98.5 Detailed functions and	l state diagrams	,	mr_au See 9	utoneg_ 8.5.1.	enable			
98.5.1 State diagram var	iables			C/ 98		98.5.6.2	P 62	L 32	# 233
Change the variable for p	oower-on as follows:			Graber, St		-		uchs GmbH	
power_on				Comment		T tion done	Comment Status A		AutoNeg
Condition that is true unti	I such time as the power s				-				
	agrams has reached the op BASE-T1 PMA control regi			SuggestedRemedy Remove this function, at it is replaced by variable mr_autoneg_complete. (see presentation					nnlete (see presentation
	ontrol register bit 1.2294.11					_ Auto-Neg		e m_autoneg_oon	
Values: false: the device is comp	letely powered (default)			Response	•		Response Status C		
true: the device has not been completely powered			ACCE Delete		PRINCIPLI	Ξ.			
				This for compl	unction leted the		RUE, if the under laying A gotiation process, otherw E		
TYPE: TR/technical required					d Z/with	ndrawn		98 98.5.6.2	Page 28 of 81 5/22/2018 5:27:22

SORT ORDER: Clause, Subclause, page, line

C/ 98 SC 98.5.6.2 P 62 L 39 # 234 Graber, Steffen Pepperl+Fuchs GmbH	C/ 98 SC 98.5.6.2 P 62 L 49 # 236 Graber, Steffen Pepperl+Fuchs GmbH
Comment Type E Comment Status A Autoria ., otherwise this function returns false.	Neg Comment Type T Comment Status A Auto energy_detected
SuggestedRemedy ., otherwise this function returns FALSE. (write FALSE in capital letters) Response Response Status C ACCEPT IN PRINCIPLE. On line 40, change "false" to "FALSE".	SuggestedRemedy Remove energy_detected function and description, as this is not needed anymore. (see presentation "10BASE-T1L Auto-Negotiation") Response Response Status C ACCEPT IN PRINCIPLE.
This function returns TRUE, if at least the last 12 received DME pulses are within the allowed range for the high speed Auto-Negotiation communication (400 ns to 3600 ns	Delete, energy_detected This function returns TRUE, if signal energy is detected on the link segment and the puls width of at least the last 12 received pulses is within the allowed range for the high speed Auto-Negotiation DME communication (15 ns to 135 ns pulse width) or the low speed Au Negotiation DME communication (400 ns to 3600 ns pulse width). Values: TRUE or FALSE
pulse width) including the violations of the DME encoding within the start delimiter. SuggestedRemedy	Cl 98 SC 98.5.6.3 P 63 L 3 # 237
SuggestedRemedy This function returns TRUE, if at least the last 12 received DME pulses are within the allowed range for the low speed Auto-Negotiation communication (400 ns to 3600 ns pi width) including the violations of the DME encoding within the start delimiter, otherwise function returns FALSE. (replace high speed by low speed and add FALSE condition)	Graber, Steffen Pepperl+Fuchs GmbH Se Comment Type E Comment Status A Editor his Editor's Note SuggestedRemedy Please remove Editor's Note.
SuggestedRemedy This function returns TRUE, if at least the last 12 received DME pulses are within the allowed range for the low speed Auto-Negotiation communication (400 ns to 3600 ns puwidth) including the violations of the DME encoding within the start delimiter, otherwise function returns FALSE. (replace high speed by low speed and add FALSE condition) Response Response Status C	Graber, Steffen Pepperl+Fuchs GmbH Se Comment Type E Comment Status A Editor his Editor's Note SuggestedRemedy
SuggestedRemedy This function returns TRUE, if at least the last 12 received DME pulses are within the allowed range for the low speed Auto-Negotiation communication (400 ns to 3600 ns pi width) including the violations of the DME encoding within the start delimiter, otherwise function returns FALSE. (replace high speed by low speed and add FALSE condition) Response Response Status C ACCEPT IN PRINCIPLE.	Graber, Steffen Pepperl+Fuchs GmbH Se Comment Type E Comment Status A Editor his Editor's Note SuggestedRemedy Please remove Editor's Note. Response Response Status C
SuggestedRemedy This function returns TRUE, if at least the last 12 received DME pulses are within the allowed range for the low speed Auto-Negotiation communication (400 ns to 3600 ns prividth) including the violations of the DME encoding within the start delimiter, otherwise function returns FALSE. (replace high speed by low speed and add FALSE condition) Response Response Status C ACCEPT IN PRINCIPLE. On line 45, replace, "high speed" with "low speed"	Graber, Steffen Pepperl+Fuchs GmbH Se Comment Type E Comment Status A Editor bis Editor's Note SuggestedRemedy Please remove Editor's Note. Response Response Status C ACCEPT. Cl 98 SC 98.5.6.3 P 63 L 11 # 238
SuggestedRemedy This function returns TRUE, if at least the last 12 received DME pulses are within the allowed range for the low speed Auto-Negotiation communication (400 ns to 3600 ns prividth) including the violations of the DME encoding within the start delimiter, otherwise function returns FALSE. (replace high speed by low speed and add FALSE condition) Response Response Status C ACCEPT IN PRINCIPLE. On line 45, replace, "high speed" with "low speed"	Graber, Steffen Pepperl+Fuchs GmbH Se Comment Type E Comment Status A Editor Editor's Note SuggestedRemedy Please remove Editor's Note. Response Response Status C ACCEPT. C/ 98 SC 98.5.6.3 P63 L 11 # 238 Graber, Steffen Pepperl+Fuchs GmbH Comment Type T Comment Status A Autor

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

CI 98 SC 98.5.6.3 Page 29 of 81 5/22/2018 5:27:22 PM

					-					
<i>Cl</i> 98 Graber, Stef	SC 98.5.6.3	P 63 Pepperl+Fucl	L 13 ns GmbH	# 239	<i>Cl</i> 98 Graber, S	SC 98.0 teffen	6.8	P 64 Pepperl+Fucł	L 5 ns GmbH	# 349
Comment Ty Timer va	<i>ype</i> T alue: TBD	Comment Status A		AutoNeg	<i>Comment</i> All va	51		Comment Status A s in the table start with "Exp	ire".	E
SuggestedR Timer va	Remedy alue: 100 ms ±	1 ms				e change "I	Expire"	to "Expires" in each row of	the table, as on	ly a single timer is
Response ACCEP ⁻	Т.	Response Status C			refere <i>Response</i> ACCE	9		Response Status C		
C/ 98 Graber, Stef	SC 98.6.8 ifen	P 63 Pepperl+Fucl	L 46 ns GmbH	# 240	<i>Cl</i> 98 Graber, S	SC 98.0	.6.8	P 64 Pepperl+Fuct	L6	# 242
Comment Ty Editor's SuggestedR	Note Remedy	Comment Status A		Editorial	Comment	t <i>Type</i> T 15000 ns to		Comment Status A		AutoNe
Please r Response	remove Editor's	Note. Response Status C			••	-	o 20868	s ns in low speed mode.		
ACCEP	т.	Response Status			Response	e PT IN PRII		Response Status C		
C/ 98 Graber, Stef	SC 98.6.8	P 64 Pepperl+Fucl	L 4 ns GmbH	# 241		porate reme	-			
Comment Ty timer va	ype E Ilues are listed i	Comment Status A n table without references to		<i>AutoNeg_timers</i> ISM]) or low speed	<i>Cl</i> 98 Graber, S	SC 98.0 teffen	6.8	P 64 Pepperl+Fucł	L 10 ns GmbH	# 243
SuggestedR		on modes. he table from the timer refere	ences as they ar	e and not to		51	305 µs	Comment Status A after being started in high s	speed mode and	AutoNe TBD μs to TBD μs in
Alternati splitted,	ively the timers and made opti	referrers, as this seems to could be referenced with ad onal, depending on the supp	ditional _[HSM] orted auto-nego	and _[LSM] text, tiation speed grades (in				after being started (the time	er value is the sa	ame for both high
	e there is also ι which style to ι	need to add the splitting for t ise.	he backoff_time	r). The group needs to	Response		peeum	Response Status C		
Response		Response Status C			ACCE	EPT IN PRII	NCIPLE	.		
Make PI referenc Currentl	ing the timers a y proposed AC	with resolution of naming of	ow the additional	_[HSM], _[LSM] text	Incorp	porate reme	edy with	underline.		

C/ 98 SC 98.6.8 Graber, Steffen	P 64 Pepperl+Fuch	<i>L</i> 35 s GmbH	# 244	<i>Cl</i> 98 Graber, Ste	SC 98.6.8 effen	Р 64 Pepperl+Fu	<i>L</i> 52 ichs GmbH	# 247
TBD ms to TBD ms in SuggestedRemedy Expire 3030 ms to 309	0 ms after endering the AN G ms for all other BASE-T1 PH Response Status C	OOD CHECK S		Suggested . and 2 Response ACCE	5900 ns to 168 Remedy			AutoNeg
after entering the AN C	97 <underline>3030 ms to <sl GOOD CHECK <begin underli<br="">other BASE-T1 PHYs<end td="" ur<=""><td>ne> state for a</td><td></td><td>C/ 98 Graber, Sto Comment</td><td>SC 98B.3 effen <i>Type</i> T</td><td>P Pepperl+Fu <i>Comment Status</i> A ASE-T1L PHYs need to be</td><td></td><td># 285 <i>AutoNeg</i> 8B-1 of IEEE802.3</td></end></begin></sl </underline>	ne> state for a		C/ 98 Graber, Sto Comment	SC 98B.3 effen <i>Type</i> T	P Pepperl+Fu <i>Comment Status</i> A ASE-T1L PHYs need to be		# 285 <i>AutoNeg</i> 8B-1 of IEEE802.3
SuggestedRemedy	P 64 Pepperl+Fuch <i>Comment Status</i> A 7140 ns in low speed mode.	L 44 s GmbH	# 245 AutoNeg	standa Suggested Chang Response ACCE	Remedy le bit A1 in table	98B-1 from RESERVED to Response Status C	0 10BASE-T1S	
. and 145668 ns to 148 <i>Response</i> ACCEPT IN PRINCIPI Incorporate remedy wi				C/ 98 Graber, Sto Comment Priority standa	<i>Type</i> T / resolution for ²	P Pepperl+Fu <i>Comment Status</i> A 0BASE-T1S and 10BASE-		# 286 AutoNeg added to IEEE802.3
Cl 98 SC 98.6.8 Graber, Steffen Comment Type T . and TBD µs to TBD µ SuggestedRemedy	P 64 Pepperl+Fuch <i>Comment Status</i> A is in low speed mode.	L 48 s GmbH	# 246 AutoNeg	T1L in <i>Response</i>	BASE-T1S in t the priority reso	ne priority resolution list afte lution list after 10BASE-T13 <i>Response Status</i> C _E.		nd then add 10BASE-
. and 300 μs to 340 μs <i>Response</i> ACCEPT IN PRINCIPI Incorporate remedy wi	Response Status C E.			Steffer	n Graber to prov	ide editing instructions.		

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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C/ 98 SC 98C.1 Graber, Steffen	<i>P</i> Pepperl+Fucl	<i>L</i> hs GmbH	# 287	C/ 98 SC 98C.6 P L Graber, Steffen Pepperl+Fuchs GmbH	# 290
Comment Type T	Comment Status D or 10BASE-T1L need to be		AutoNeg BC-1.	Comment Type T Comment Status A Next Page Information for 10BASE-T1S need to be added to Annex	AutoNeg 98.C
Information (see present Proposed Response REJECT.	(00000000111) with mess ation "10BASE-T1L Auto-N <i>Response Status</i> Z HDRAWN by the comment	legotiation.pdf")	otion for 10BASE-T1L	SuggestedRemedy Please add text shown in presentation "10BASE-T1L Auto-Negotiat Response Response Status C ACCEPT IN PRINCIPLE. Refer to section 7 of 802.3cj Annex 98C (page 946) to identify when with Steffen).	
C/ 98 SC 98C.1 Graber, Steffen	<i>P</i> Pepperl+Fucl	L	# 288	C/ 104 SC 104 P 65 L 1 Jones, Peter Cisco	# 496
SuggestedRemedy Add Message Code ID 8 Information (see present Response ACCEPT IN PRINCIPLE Revise clause 98 in acco Negotiation_Rev0p1.pdf	Comment Status A or 10BASE-T1S need to be (00000001000) with mess ation "10BASE-T1L Auto-N <i>Response Status</i> C ordance with old revision of ' with the addition of 2 bits nces for Message Codes 7	age code descrip legotiation.pdf") "10BASE-T1L A for PLCA and giv	otion for 10BASE-T1S uto- re editorial license to	Comment Type T Comment Status A Change to align with PAR modification throughout rest of clause SuggestedRemedy SuggestedRemedy Change "Single Balanced Twisted-Pair" to "Single Balanced Pair" Response Response Status C ACCEPT IN PRINCIPLE. Change "Single Balanced Twisted-Pair Ethernet" to "Single-Pair Ethernet"	Late
C/ 98 SC 98C.5 Graber, Steffen	<i>P</i> Pepperl+Fuc	<i>L</i> hs GmbH	# 289		
Comment Type T Next Page Information for	Comment Status A or 10BASE-T1L need to be	added to Annex	<i>AutoNeg</i> 98.C		
SuggestedRemedy Please add text shown ii	presentation "10BASE-T1	L Auto-Negotiati	on.pdf", page 13.		
Response ACCEPT IN PRINCIPLE	Response Status C	Ū			

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 104 SC 104

C/ 104 SC 104.1.3 Zimmerman, George	P 65 CME Consult	L 10 ing et al	# 395	C/ 104 Graber, St	SC 104.6.2 effen	P 69 Pepper	<i>L</i> 43 I+Fuchs GmbH	# 248
Comment Type T Due to the similar require	Comment Status A ements of the MDI Return I h 100BASE-T1S. 100BAS	_oss a type A or		Comment	<i>Type</i> E becified in 146.8.3	Comment Status		EZ
T1 PHYs." to "A Type A 100BASE-T1 or 10BASE C PD is compatible with	pe C PSE and Type A or T or Type C PSE and Type -T1S PHYs.", and change both 100BASE-T1 and 100	A or Type C PD line 12 from "A 00BASE-T1 PHY	is compatible with Type C PSE and Type s." to "A Type C PSE	Response ACCE	PT.	Response Status		
and Type C PD is compa Response	atible with 10BASE-T1S, 10 <i>Response Status</i> C	0BASE-T1 and	1000BASE-T1 PHYs."	Cl 104 Zimmerma	SC 104.7.1.3 an. George	-	L 12 onsulting et al	# 400
ACCEPT IN PRINCIPLE Make the following chan Change from,	•			Comment TBD fo Suggested Delete	or max bus capad IRemedy	Comment Status	A	<i>Power</i> ment
to,	E and Type A or Type C Pl	D is compatible	with 10BASE-T1S and		PT IN PRINCIPL	Response Status E. 80". Resolved by com		
and change line 12 from "A Type C PSE and Typ PHYs."	e C PD is compatible with I	ooth 100BASE-1	1 and 1000BASE-T1	<i>Cl</i> 104 Graber, St	SC 104.7.1.3 effen	-	<i>L</i> 12 I+Fuchs GmbH	# 249
to,	e C PD is compatible with	10BASE-T1S, 1	00BASE-T1 and	Comment 72 (TE Suggested	BD)	Comment Status	A	Power
C/ 104 SC 104.6.2 Zimmerman, George	P 69 CME Consult	<i>L</i> 42 ing et al	# 407	80 (su capaci	ggestion is to go	n. Thus 72 nF seem to		s having approx. 70 nF ypical values, and 80 nF
	Comment Status A and PDs shall meet the fai be filled in. Since Type E is				PT IN PRINCIPL ie "72 (TBD)" to "		C	
SuggestedRemedy Change 146.8.xxx to 146	5.8.4 (cross reference)			Onang				
Response ACCEPT IN PRINCIPLE Duplicate of Comment 2 Same resolution - chang	48							
TYPE: TR/technical required	ER/editorial required GR						C/ 104	Page 33 of 81

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Cl	104	
SC	104.7.1.3	

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C/ 146 SC 146 P 77 L 1 # 354 Graber, Steffen Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH Pepperl P	C/ 146 SC 146.1 P 77 L 9 # 471 Brandt, David Rockwell Automation Rockwell A
Comment Type T Comment Status A EEE Energy Efficient Ethernet description is missing in Clause 146. EEE EEE	Comment Type E Comment Status A EZ Typo
SuggestedRemedy Please add text and modify state machines as described in "Energy Efficient Ethernet.pdf" (see also presentation "10BASE-T1L Energy Efficient Ethernet.pdf").	SuggestedRemedy Change "fully functional and electrical specifications" to "full functional and electrical specifications"
Response Response Status C ACCEPT IN PRINCIPLE. Incorporate modifications to PCS Receive and PMA state diagrams on slides 5 and 6 of 10BASE-T1L Energy Efficient Ethernet.pdf Incorporate timer values on slides 3 and 4 in clause 78 tables 78-2 (T_q, T_s and T_r) and 78-4 (T_w_PHY, T_w_sys_tx, T_w_sys_rx, T_phy_shrink_tx, T_phy_shrink_rx) MASTER EEE_T1L	Response Response Status C ACCEPT IN PRINCIPLE. Change "Provided in this clause are fully functional and electrical specifications for type 10BASE-T1L PCS and PMA." to "Provided in this clause are fully functional and electrical specifications for type 10BASE-T1L PCS, PMA, and MDI."
Cl 146SC 146P 98L 26# 502Huszák, GergelyKoneComment TypeTComment StatusALate	Cl 146 SC 146.1 P 77 L 9 # 334 Shariff, Masood CommScope Comment Status A EZ Comment Type E Comment Status A EZ Improve sentence. EZ EZ
Figure 146-11 is confusing and unnecessary. It contradicts text stating how the output behaves when in PCS loopback. Most Base-T clauses have no figure. SuggestedRemedy Delete figure 146-11 and all references to it. Response Response Status	Provided in this clause are fully functional and electrical specifications for the type 10BASE- T1L PCS and PMA. SuggestedRemedy Provided in this clause are fully functional and electrical specifications for the type 10BASE- T1L PCS and PMA
ACCEPT IN PRINCIPLE. Delete Figure 146-11 and delete, "The PCS loopback data flow is illustrated in Figure 146–11." on line 23. Search for other references for Figure 146-11 in document and delete them.	T1L PCS and PMA. Response Response Status C ACCEPT IN PRINCIPLE. Resolved by comment 471

C/ 146 SC 146.1

C/ 146 SC 146.1 Graber, Steffen	<i>Р</i> 77 Pepperl+Fuch	L 23 is GmbH	# 350	C/ 146 SC 146.1.2 Zimmerman, George	2 P 78 CME Consu	<i>L</i> 36 Iting et al	# 397
Comment Type T Editor's Note	Comment Status A		EEE	Comment Type E Editor's note has ser redundant with other	Comment Status A rved its purpose, Text has bee r notes	n reviewed throug	EEE ght 2 cycles, AND is
Energy-Efficient Ethe	"s Note with the following text: rnet (EEE) capability. A 10BAS a Low Power Idle (LPI) mode or ed in Clause 78. Response Status C	E-T1L PHY that si	upports this	SuggestedRemedy Delete editor's note Response ACCEPT IN PRINCI Resolved by comme	Response Status C IPLE.		
ACCEPT. #EEE_T1L	·			#EEE_T1L C/ 146 SC 146.1.2		L 36	# 250
C/ 146 SC 146.1.2 Jones, Peter	P 77 Cisco	L 36	# 497	Graber, Steffen	Pepperl+Fuc		
Comment Type T Change to align with	Comment Status A		Late	Comment Type E Editor's Note	Comment Status A		EEE
uggestedRemedy	palanced twisted-pair cabling" t	to "a single balance	ed pair of conductors"		ides last line from Editor's Note	Э.	
	Response Status C PLE. palanced twisted-pair cabling" t		ed pair of	Response ACCEPT IN PRINCI Resolved by comme in it. #EEE_T1L	Response Status C IPLE. ent 351 which removed the edit	tor's note and acc	complished all the items
C/ 146 SC 146.1.2	P 77	L 38	# 498	C/ 146 SC 146.1.2 Graber, Steffen	2 P 78 Pepperl+Fuc	<i>L</i> 36 chs GmbH	# 351
ones, Peter Comment Type T Change to align with	Cisco Comment Status A PAR modification throughout re	est of clause	Late	Comment Type T Editor's Note	Comment Status A		EEE
SuggestedRemedy	ced twisted-pair cabling" to "a	single balanced pa	ir"	support Energy-Effic Auto-Negotiation as	or's Note with the following text cient Ethernet (see Clause 78) described in Annex 98C.5. Th PHYs are able to reduce powe	and advertise the e EEE capability	EEE capability during is a mechanism by
Response ACCEPT IN PRINCI	Response Status C PLE. ced twisted-pair cabling" to "sir			utilization.			uning periods of low link

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SC 146.1.2	5/22/2018 5:27:22 PM

Cl 146 SC 146.1.2 P 79 L 4 # [403] Zimmerman, George CME Consulting et al CME Consulting et al Employed and and and and and and and and and an	C/ 146 SC 146.1.2 P 79 L 13 # 396 Zimmerman, George CME Consulting et al Image: CME Consulting e
Comment Type T Comment Status A EEE EEE must be advertised during autoneg - training sequence doesn't support it. EEE	Comment Type E Comment Status A Editorial Editor's note has served its purpose, Text has been reviewed throught 2 cycles Editorial Editorial
SuggestedRemedy Insert new 3rd sentence following "link utilization.": "EEE capability is advertised during the Auto-Negotiation process." - delete editor's note on line 5 Response Response Status	SuggestedRemedy Delete editor's note at P79 line 13 Response Response Status C
ACCEPT IN PRINCIPLE.	ACCEPT.
Resolved by comment 351 #EEE_T1L	C/ 146 SC 146.2 P 81 L 1 # 253 Graber, Steffen Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH
C/ 146 SC 146.1.2 P 79 L 5 # 251 Graber, Steffen Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH<	Comment Type T Comment Status A Primitives PMA_LINK.request (link_control) is missing. Primitives Primitives
Comment Type E Comment Status A EEE Editor's Note	SuggestedRemedy Please add PMA_LINK.request before PMA_LINK.indication (link_control)
SuggestedRemedy Please remove Editor's Node (EEE is advertised using next page machanism during Autoneg and can be set by PMA control register, if Autoneg is not present or disabled).	Response Response Status C ACCEPT. #PRIMITIVES
Response Response Status C ACCEPT. #EEE_T1L	C/ 146 SC 146.2 P 81 L 10 # 254 Graber, Steffen Pepperl+Fuchs GmbH </td
C/ 146 SC 146.1.2 P 79 L 13 # 252 Graber, Steffen Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH Pepperl+Fuchs GmbH	Comment Type T Comment Status A Primitives TX_EN Primitives
Comment Type E Comment Status A Editorial Editor's Note	SuggestedRemedy Change TX_EN to tx_enable_mii (in PCS the TX_EN signal form MII is preprocessed in dependence of the current tx_mode and the resulting signal fed into PMA is tx_enable_mii).
SuggestedRemedy Please remove Editor's Note, as the text has been added for review in D1.1 and therefore has been reviewed and commented in the meantime.	Response Response Status C ACCEPT. #PRIMITIVES
Response Response Status C ACCEPT IN PRINCIPLE. Duplicate of comment 396	

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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C/ 146 SC 146.2 Graber, Steffen	P 81 Pepperl+Fuchs	L 11 s GmbH	# 255	C/ 146 SC 146.3.3.1.1 P 85 L 36 # 258 Graber, Steffen Pepperl+Fuchs GmbH	
Comment Type T Description of Service	Comment Status A Primitives is missing.		Primitives	Comment Type E Comment Status A Editor's Note	Editorial
SuggestedRemedy Please add text sugges Response ACCEPT. MASTER PRIMITIVES	sted in "Service Primitives.pdf <i>Response Status</i> C COMMENT	n		SuggestedRemedy Please remove Editor's Note as it is just an explantion for what loc_lpi_req variable used. That EEE definitions are missing is stated already at other positions in the constraint of the second	
Cl 146 SC 146.3.1 Graber, Steffen	P 82 Pepperl+Fuchs	L 22 s GmbH	# 256	C/ 146 SC 146.3.4.1.1 P 96 L 22 # 352 Graber, Steffen Pepperl+Fuchs GmbH	
Comment Type T	Comment Status A		Primitives	Comment Type E Comment Status A	EZ
51	oing to PMA is missing.			. received that this not allowed .	
Signal tx_enable_mii g SuggestedRemedy Please add singnal tx_ PMA service interface.		ATA TRANSMIS	SSION ENABLE to		
Signal tx_enable_mii g SuggestedRemedy Please add singnal tx_i PMA service interface. Response ACCEPT. #PRIMITIVES	oing to PMA is missing. enable_mii from block PCS D <i>Response Status</i> C			. received that this not allowed . SuggestedRemedy . received that is not allowed . Response Response Status C ACCEPT. Cl 146 SC 146.3.4.1.1 P 96 L 25 # 353	
Signal tx_enable_mii g SuggestedRemedy Please add singnal tx_ PMA service interface. Response ACCEPT. #PRIMITIVES C/ 146 SC 146.3.1 Graber, Steffen	oing to PMA is missing. enable_mii from block PCS D <i>Response Status</i> C <i>P</i> 82 Pepperl+Fuchs	L 38	# 257	. received that this not allowed . SuggestedRemedy . received that is not allowed . Response Response Status C ACCEPT. C/ 146 SC 146.3.4.1.1 P 96 L 25 # 353 Graber, Steffen Pepperl+Fuchs GmbH Comment Type E Comment Status A	EZ
Signal tx_enable_mii g SuggestedRemedy Please add singnal tx_i PMA service interface. Response ACCEPT. #PRIMITIVES C/ 146 SC 146.3.1 Graber, Steffen Comment Type E	oing to PMA is missing. enable_mii from block PCS D <i>Response Status</i> C <i>P</i> 82	<i>L</i> 38 s GmbH	# 257 EZ	. received that this not allowed . SuggestedRemedy . received that is not allowed . Response Response Status C ACCEPT. C/ 146 SC 146.3.4.1.1 P96 L 25 # 353 Graber, Steffen Pepperl+Fuchs GmbH	

C/ 146 SC 146.3.4.1.1 Page 37 of 81 5/22/2018 5:27:22 PM

C/ 146 SC 146.4 Graber, Steffen	P 99 Pepperl+Fuch	L 10 s GmbH	# 259	Cl 146 SC 146.4.4 Graber, Steffen	P 101 Pepperl+Fuch	L 23 Is GmbH	# 260	
Comment Type T TX_EN	Comment Status A		Primitives	Comment Type E AUTONEG mode	Comment Status A			Eź
SuggestedRemedy tx_enable_mii (the varia Transmission Enabling	able is not directly coming fro state diagram)	m MII, but from	the PCS Data	SuggestedRemedy Auto-Negotiation				
Response ACCEPT IN PRINCIPL Change signal name in	Response Status C E. diagram from TX_EN to tx_e	nahle mii		Response ACCEPT IN PRINCIPL Change AUTONEG to	Response Status C E. Auto-Negotiation on lines 23	and 26.		
(the signal name at the #PRIMITIVES				C/ 146 SC 146.4.4 Graber, Steffen	P 101 Pepperl+Fuch	L 25 Is GmbH	# 262	
C/ 146 SC 146.4.3	P 100	L 38	# 299	Comment Type E AUTONEG mode	Comment Status A			EZ
Maguire, Valerie Comment Type E Align media references	The Siemon C Comment Status A with revised objectives.	ompany	Editorial	SuggestedRemedy Auto-Negotiation				
SuggestedRemedy Replace, "single pair" v	vith "single balanced pair"			Response ACCEPT IN PRINCIPL Resolved by comment				
Response ACCEPT IN PRINCIPL Change "PMA Receive	Response Status C E. has the ability to translate the	e received signa	ls on the single pair	C/ 146 SC 146.4.4 Graber, Steffen	P 101 Pepperl+Fuch	L 25 Is GmbH	# 263	
into the PMA_UNITDA	TA.indication parameter rx_sy	mb_vector"		Comment Type T PMA_CONFIG	Comment Status A			EZ
PMA_UNITDATA.indic	he ability to translate the rece ation parameter rx_symb_vec	tor"		SuggestedRemedy variable config				
C/ 146 SC 146.4.4 Graber, Steffen	P 101 Pepperl+Fuch	L 23 s GmbH	# 261	Response ACCEPT IN PRINCIPL	Response Status C			
Comment Type T PMA_CONFIG	Comment Status A		EZ	Resolved by comment				
SuggestedRemedy variable config								
Response ACCEPT IN PRINCIPL Change PMA_CONFIG	Response Status C E. b to "the configuration of the P	MA" on lines 23	and 26					

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 146 SC 146.4.4 C/ 146 SC 146.5.1 P 104 L 48 # 418 C/ 146 SC 146.5.4.1 P106 L 42 # 265 Zimmerman, George CME Consulting et al Graber, Steffen Pepperl+Fuchs GmbH Comment Type T Comment Status A PMA Flectrical Comment Type т Comment Status A **F**ditorial Editor's note is unnecessary. EMC is being discussed. Note just gives general information. Default setting is to use Auto-Negotiation. SugaestedRemedv SuagestedRemedv Delete editor's note. Default setting is to use Auto-Negotiation, if available. Response Response Response Status C Response Status C ACCEPT. ACCEPT IN PRINCIPLE. Change "Default setting is to use Auto-Negotiation." to "The default setting is to use Auto-P 105 Negotiation, if available." C/ 146 SC 146.5.2 L 31 # 404 Zimmerman, George CME Consulting et al Comment Type E Comment Status A PMA Electrical (Auto-Negotiation is not required for the PHY operation) Editor's note has served its purpose C/ 146 SC 146.5.4.4 P107 L 3 # 405 SuggestedRemedy Zimmerman, George CME Consulting et al delete editor's note as per instruction Comment Type E Comment Status A PMA Electrical Response Response Status C All values in the document are subject to change, and editor's note has served its purpose. ACCEPT IN PRINCIPLE. SuggestedRemedy Duplicate of comment 264 Delete editor's note saying "the values of the mask are and power level are TBD" C/ 146 SC 146.5.2 P 105 L 32 # 264 Response Response Status C Graber, Steffen Pepperl+Fuchs GmbH ACCEPT. Comment Type Е Comment Status A PMA Electrical C/ 146 P 107 SC 146.5.4.4 14 # 266 Editor's Note Graber, Steffen Pepperl+Fuchs GmbH SuggestedRemedy Comment Type T Comment Status A PMA Electrical Please remove Editor's Note, as the test mode 3 in the meantime has been added to the draft. Editor's Note Response Response Status C SuggestedRemedy ACCEPT. PSD mask limits are already in since D1.1 for commenting. Please remove Editor's note. If other comments related to the PSD mask are available during this meeting cycle, the PSD mask can be adjusted accordingly. Otherwise comments related to the PSD mask are also possible during Working Group Ballot. Response Response Status C ACCEPT IN PRINCIPLE. Resolved by comment 405

I Management Parameters for 10 Mb/s Operation over Single Balanced Twisted-pair Cabling and Associat

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SC 146.5.4.4	5/22/2018 5:27:22 PM

Cl 146 SC 146.5.4.4 P 107 L 28 Zimmerman, George CME Consulting et al	# 406	Cl 146 SC 146.5.5.3 Zimmerman, George	P 109 CME Consultin	L 3 lg et al	# 398
Comment Type E Comment Status A Editor's note has served its purpose	Editorial	Comment Type T Con Text has resolved the technic	mment Status A al issues in the editor's	note.	PMA Electrical
SuggestedRemedy delete editor's note as specified in instruction.		SuggestedRemedy Delete editor's note at P109 L	.3		
Response Response Status C ACCEPT IN PRINCIPLE. Resolved by comment 267.		Response Resp ACCEPT IN PRINCIPLE. Resolved by comment 268	ponse Status C		
C/ 146 SC 146.5.4.4 P 107 L 28 Graber, Steffen Pepperl+Fuchs GmbH	# 267	C/ 146 SC 146.5.5.3 Zimmerman, George	P 109 CME Consultin	L 34 ng et al	# 408
Comment Type T Comment Status A Editor's Note	Editorial	Comment Type T Con Many issues in the editor's no how this test relates to the tra		and discussed.	<i>PMA Electrical</i> . The only issue left is
SuggestedRemedy	an haan in far commonting	SuggestedRemedy	- .		
, -	las been in for commenting	Delete "several points here" relates to transmit amplitude needs to discuss how alien no	option." so that the edito	or's note body t	text reads: "Task Force
since D1.2.	las been in for commenting	Delete "several points here" relates to transmit amplitude needs to discuss how alien no	option." so that the edito	or's note body t	text reads: "Task Force
since D1.2. Response Response Status C ACCEPT. C/ 146 SC 146.5.5.3 P 109 L 3	# 268	Delete "several points here" relates to transmit amplitude on needs to discuss how alien no <i>Response Res</i> ACCEPT IN PRINCIPLE. Delet editor's note at P109 L3	option." so that the edito bise test relates to trans ponse Status C	or's note body t	text reads: "Task Force
since D1.2. Response Response Status C ACCEPT. C/ 146 SC 146.5.5.3 P 109 L 3 Graber, Steffen Pepperl+Fuchs GmbH Comment Type T Comment Status A Editor's Note SuggestedRemedy During the meeting in Rosemont, there were some discussion outcome of the discussions was, not to implement the summe now. Therefore suggestion is to remove the Editor's node and noise test like it is currently specified in D1.2. If then during W	# 268 PMA Electrical as about noise tests and bed transmitter noise test for stay with the Alien Crosstalk	Delete "several points here" relates to transmit amplitude of needs to discuss how alien no <i>Response</i> ACCEPT IN PRINCIPLE. Delet editor's note at P109 L3 Change 146.7.1.1 at P112 L 1 from: "The insertion loss of each 10 using Equation (146–10)." to: "For PHYs in the 2.4 Vpp ope segment shall meet the value Insert in 147.7.1.1 after the fig	option." so that the edito bise test relates to trans ponse Status C 14 12: BASE-T1L link segmen tration mode, the insertion s determined using Equ	or's note body t mit amplitude nt shall meet th on loss of eact	text reads: "Task Force option." le values determined n 10BASE-T1L link
since D1.2. Response Response Status C ACCEPT. Cl 146 SC 146.5.5.3 P 109 L 3 Graber, Steffen Pepperl+Fuchs GmbH Comment Type T Comment Status A Editor's Note SuggestedRemedy During the meeting in Rosemont, there were some discussion outcome of the discussions was, not to implement the summer now. Therefore suggestion is to remove the Editor's node and	# 268 PMA Electrical as about noise tests and bed transmitter noise test for stay with the Alien Crosstalk	Delete "several points here" relates to transmit amplitude of needs to discuss how alien no <i>Response</i> ACCEPT IN PRINCIPLE. Delet editor's note at P109 L3 Change 146.7.1.1 at P112 L 1 from: "The insertion loss of each 10 using Equation (146–10)." to: "For PHYs in the 2.4 Vpp ope segment shall meet the value	option." so that the edito bise test relates to trans ponse Status C 44 12: BASE-T1L link segmen tration mode, the inserti- s determined using Equ gure, tration mode, the inserti-	or's note body f mit amplitude nt shall meet th on loss of each uation (146–10) on loss of each	text reads: "Task Force option." le values determined n 10BASE-T1L link)."

C/ 146 SC 146.5.5.3

C/ 146 SC 146.5.5.3	P 109 L 34	# 269	C/ 146 SC 146.5.6	P 109 L 46	# 270
Graber, Steffen	Pepperl+Fuchs GmbH		Graber, Steffen	Pepperl+Fuchs GmbH	
Comment Type T Editor's Note	Comment Status A	PMA Electrical	Comment Type T 2.76 Vpp	Comment Status A	PMA Electrical
SuggestedDemodu			SuggestedDemodu		

SuggestedRemedy

Outcome of the discussions in Rosemont was, to stay with the current Alien Crosstalk test and not use a summed transmitter test. As there will be different link segment descriptions for the 1.0 Vpp and the 2.4 Vpp transmitter which are adapted according to the lower transmit power, there is no need to specify different noise levels for 1.0 Vpp and 2.4 Vpp transmit amplitudes. As long as shielded cables (shield attenuation typ. 60 dB for E3 additionally to the mode conversion of the twisted pair) are used, the margin seems to be ok (typ. 100 dB attenuation). For unshielded twisted pairs (see link segment definitions) further investigation is necessary. But as this is handled in the link segment section, please remove the Editor's Note at this position.

Response		Response Status	С		
	PT IN PRINCIPLE	= -			
Resolu	red by comment 2	106.			
C/ 146	SC 146.5.6	P 1	09	L 46	# 271
Graber, Ste	effen	Pepp	erl+Fuchs Gr	nbH	

Comment Type T Comment Status A PMA Electrical 1.15 Vpp

SuggestedRemedy

1.10 Vpp (5 % tolerance of output voltage, 20 % droop (+/- 10 %) using test mode 2 pulses, which are 10 bit times long, see 146.5.4.2. As the maximum pulse length in the 4B3T encoded signal form is only 5 bit times instead of 10 bit times, during normal communication the droop shall be less than 10 % (+/- 5 %). Thus the maximum peak-to-peak voltage will be 1.10 Vpp instead of 1.15 Vpp.

Response

Response Status C

ACCEPT IN PRINCIPLE. Replace 1.15 Vpp with 1.10 Vpp on P109 L46

C/ 146	SC	146.5.6	Р	109	L 46	#	270	
Graber, Ste	effen		Рер	perl+F	uchs GmbH			
Comment 7 2.76 Vi		т	Comment Status	s A			PMA E	Electrica
Suggested	Remed	ly						
pulses, 4B3T e commu	which ncode inicatio	are 10 bit d signal fo on the droo	times long, see 14 frm is only 5 bit tim	l6.5.4.2 es inst n 10 %	droop (+/- 10 %) usin 2. As the maximum p ead of 10 bit times, d 6 (+/- 5 %). Thus the 5.	ulse ler luring n	ngth in t ormal	
Response			Response Status	C				
		PRINCIPL	E. 2.64 Vpp on P109	L46				
C/ 146	SC	146.5.6	Р	109	L 50	#	272	
Graber, Ste	effen		Рер	perl+F	uchs GmbH			
Comment T Editor's		Е	Comment Statu	s A			PMA E	lectrica
Suggested Please		•	Note, see the two	comme	ents above this comm	nent.		
Response			Response Status	C				
Delete	Editor'	PRINCIPLI s note ts 270 and						
C/ 146	SC	146.5.6	Р	109	L 50	#	399	
Zimmerma	n, Geo	rge	CME	E Cons	ulting et al			
Comment T Editor's		E has served	<i>Comment Statu</i> d its purpose - issu		e been considered in	recirc	PMA E	Electrica
Suggested Delete		<i>ly</i> s note at F	2109 L50					
Response			Response Status	C				
		PRINCIPL	E.					

C/ 146 SC 146.5.6 Page 41 of 81 5/22/2018 5:27:22 PM

C/ 146 SC 146.6.1 Graber, Steffen	P 110 Pepperl+Fuch	L 47 Is GmbH	# 273	C/ 146 SC 146.6.3 Graber, Steffen	P 111 Pepperl+Fuch	L 26 is GmbH	# 275
Comment Type T Editor's Note	Comment Status A		AutoN	Comment Type E Com 10BASE-T1 PMA/PMD control	ment Status A register		
enabled, the MASTER- method being described Negotiation functionality MASTER-SLAVE config	Note and add the following to SLAVE configuration betwee d in Clause 98.2.1.2.5 and Ta y preset or if Auto-Negotiatior guration is done separately fo	n the PHYs is ea able 98-4. If there n function has be	stablished using the e is no Auto- een disabled, then the	SuggestedRemedy BASE-T1 PMA/PMD control re- Response Response ACCEPT IN PRINCIPLE. Change "10BASE-T1" to "BAS	onse Status C		
(BASE-T1 PMA/PMD c Response	Response Status C			C/ 146 SC 146.6.3 Graber, Steffen	P 111 Pepperl+Fuch	L 28 ns GmbH	# 276
ACCEPT IN PRINCIPL Delete Editor's Note. Insert new paragraph a				Comment Type E Com 10BASE-T1 PMA/PMD control SuggestedRemedy	ment Status A register		
the PHYs is established there is no Auto-Negotia	available and enabled, the MA d using the method being des ation functionality present or -SLAVE configuration is perfo	scribed in 98.2.1 if Auto-Negotiati	.2.5 and Table 98-4. I	, , ,	gister onse Status C		
the PHYs is established there is no Auto-Negoti disabled, the MASTER-	d using the method being des ation functionality present or -SLAVE configuration is perfor MA/PMD control register) or of P 111	scribed in 98.2.1 if Auto-Negotiati prmed for each F equivalent functi <i>L</i> 11	.2.5 and Table 98-4. I ion function has been PHY using bit		onse Status C	L 5	# [314
the PHYs is established there is no Auto-Negoti disabled, the MASTER- 1.2100.14 (BASE-T1 PI	d using the method being des ation functionality present or -SLAVE configuration is perfor MA/PMD control register) or e	scribed in 98.2.1 if Auto-Negotiati prmed for each F equivalent functi <i>L</i> 11	.2.5 and Table 98-4. I ion function has been PHY using bit onality.	Response Response Response Response Response Response CCEPT IN PRINCIPLE. Change 10BASE-T1 to BASE-T	onse Status C		# [314
the PHYs is established there is no Auto-Negoti disabled, the MASTER- 1.2100.14 (BASE-T1 PI C/ 146 SC 146.6.2	d using the method being des ation functionality present or -SLAVE configuration is perfor MA/PMD control register) or of P 111 Pepperl+Fuch Comment Status A	scribed in 98.2.1 if Auto-Negotiati prmed for each F equivalent functi <i>L</i> 11	.2.5 and Table 98-4. It ion function has been PHY using bit onality. # 274	Response Response ACCEPT IN PRINCIPLE. Change 10BASE-T1 to BASE-T Cl 146 SC 146.7.1.2 Horrmeyer, Bernd	onse Status C T1 P113 Phoenix Conta ment Status A	act	# <u>314</u> Link Segme
the PHYs is established there is no Auto-Negotia disabled, the MASTER- 1.2100.14 (BASE-T1 PI C/ 146 SC 146.6.2 Graber, Steffen Comment Type T Default setting is to use SuggestedRemedy	d using the method being des ation functionality present or -SLAVE configuration is perfor MA/PMD control register) or of P 111 Pepperl+Fuch Comment Status A	scribed in 98.2.1 if Auto-Negotiati prmed for each F equivalent functi <i>L</i> 11 as GmbH	.2.5 and Table 98-4. It ion function has been PHY using bit onality. # 274	Response Response ACCEPT IN PRINCIPLE. Change 10BASE-T1 to BASE-T1 to	onse Status C T1 P113 Phoenix Conta ment Status A gure 146-23 shows 13	act	

C/ 146 SC 146.7.1.2

C/ 146 SC 146.7.1.3 Shariff, Masood	P 113 CommScope	L 42	# 335	Cl 146 Schicketanz	SC 146.7	.1.5	P 114 Reutlingen Ur	L 27	# 364
Comment Type ER	Comment Status A		Link Segment	Comment 7		Com	ment Status A	iversity	Link Segment
globally. SuggestedRemedy	andard and should use the S			Couplin classific upward TC46 d	g attenuatio ation, there s only. As the ecided last	n: there are fore standa here is a nee week to star	e similar measuremen rized set ups specify ed now to have a star rt a project on the bas	coupling attenuandarized set ups	below 30MHz IEC Iblished standards
Globally use soft convers AWG D(ins) D(mm) C 110.09072.304.17 120.08082.053.31 130.07201.832.63 140.06411.632.08 150.05711.451.65	ions of AWG to SI as shown A(mm2)	below. Eg. 14	AWG (1.63 mm)	attenua Confere %20Ha fig.6 tha ends in	tion below 2 nce (http:// me_Mund% t the coupli noise below	0 MHz. Tak www.bedea 20-%20EN ng attenuaa	ting a presentation fro a.com/images/PDF/M IC%20of%20Cables, tion has a slpoe of at the measurement goe	om Proceedings esstechnik/engli %20Connectors. oout 20 dB/dec b	sh/IWCS%20- .pdf) it can be seen in
160.05081.291.31				Suggested	Remedy				
170.04531.151.04 180.04031.020.82 190.03590.910.65 200.03200.810.52 210.02850.720.41				(ISO,80 100 MH coupline	2.3bp Schio z and add I g attenuatio	ketanz1220 ater, if need	ents presented it is pr 017_10SPE_01_adho ded , a formula prese equency range with 0 at line 35.	bc Page 7) of counted by IEC TC4	upling attenuation at
220.02540.650.33 230.02260.570.26				Response ACCEF	т.	Resp	onse Status C		
240.02010.510.20 250.01790.450.16 260.01590.400.13				In Table	146-6 cou		ation replace frequen lete editors note at lir		1 <f< 20,="" 40,<="" e1="" td="" with=""></f<>
250.01790.450.16 260.01590.400.13	Response Status C			In Table	146-6 cou	with 60. De			1 <f< 20,="" 40,<br="" e1="" with=""># 363</f<>
250.01790.450.16 260.01590.400.13 Response	<i>Response Status</i> C Add mm dimension to AWG	globally e.g.,	14 AWG (1.63 mm).	In Table E2 with	146-6 cou 50, and E3 SC 146.7	with 60. De	lete editors note at lir	ne 35. <i>L</i> 6	
250.01790.450.16 260.01590.400.13 Response	Add mm dimension to AWG	globally e.g.,	14 AWG (1.63 mm).	In Table E2 with C/ 146 Schicketanz Comment 7 Table 1 divided and cor	SC 146-6 cou 50, and E3 SC 146.7 , Dieter ype T 46-7 electro up the frequence	with 60. De .1.6 Com magnetic cl uency range below 80 M	lete editors note at lir P 115 Reutlingen Ur ment Status A lassification. Due to n	L 6 L 6 niversity neasurement lim	# 363 Link Segment hitations CISPR has as higher than 80MHz,
250.01790.450.16 260.01590.400.13 Response ACCEPT IN PRINCIPLE.	Add mm dimension to AWG	globally e.g.,	14 AWG (1.63 mm).	In Table E2 with Cl 146 Schicketanz Comment 7 Table 1 divided and cor emmisi Suggestedf	SC 146-6 cou 50, and E3 SC 146.7 , Dieter ype T 46-7 electro up the frequ ducted RF on as outsic Remedy	with 60. De Com magnetic cl uency range below 80 M le the freque	P 115 P 115 Reutlingen Ur ment Status A lassification. Due to n in radiated emmision Hz. It is therefore not ency range of T1L	L 6 L 6 niversity neasurement lim	# 363 Link Segment hitations CISPR has as higher than 80MHz,
250.01790.450.16 260.01590.400.13 <i>Response</i> ACCEPT IN PRINCIPLE.	Add mm dimension to AWG	globally e.g.,	14 AWG (1.63 mm).	In Table E2 with C/ 146 Schicketanz Comment 7 Table 1 divided and cor emmisi Suggested Delete	SC 146-6 cou 50, and E3 SC 146.7 , Dieter ype T 46-7 electro up the frequ ducted RF on as outsic Remedy	with 60. De .1.6 magnetic cl uency range below 80 M le the freque ted RF-AM	P 115 P 115 Reutlingen Ur ment Status A lassification. Due to n in radiated emmision Hz. It is therefore not ency range of T1L from Table 146-7	L 6 L 6 niversity neasurement lim	# 363 Link Segment hitations CISPR has as higher than 80MHz,
250.01790.450.16 260.01590.400.13 <i>Response</i> ACCEPT IN PRINCIPLE.	Add mm dimension to AWG	globally e.g.,	14 AWG (1.63 mm).	In Table E2 with Cl 146 Schicketanz Comment 7 Table 1 divided and cor emmisi Suggestedf Delete Response	SC 146-6 cou 50, and E3 SC 146.7 , Dieter ype T 46-7 electro up the frequ ducted RF on as outsic Remedy	with 60. De .1.6 Com magnetic cl uency range below 80 M le the freque ted RF-AM <i>Resp</i>	P 115 P 115 Reutlingen Ur ment Status A lassification. Due to n in radiated emmision Hz. It is therefore not ency range of T1L	L 6 L 6 niversity neasurement lim	# 363 Link Segment hitations CISPR has as higher than 80MHz,

C/ 146 SC 146.7.1.6

Cl 146 SC 146.7.2.3 Graber, Steffen	P 116 Pepperl+Fuchs	<i>L</i> 23 GmbH	# 277	Cl 146 SC 146.8 Fritsche, Matthias	P 116 HARTING Te	L 40 echnology	# 355
Comment Type E Editor's Note	Comment Status A		Link Segment	Comment Type E	Comment Status A tresolution discussion of comm		MDI the two pin versions.
SuggestedRemedy Please remove Editor's discussed during the m Response ACCEPT.	Note as the referenced text is eeting is Rosemont. <i>Response Status</i> C	already in since	D1.1 and has been		ations also a two or four pin M8 connector may be used as long fined in 146.7. <i>Response Status</i> C		
Cl 146 SC 146.8 Zimmerman, George	P 116 CME Consulting	L 23 g et al	# 409	ACCEPT IN PRINC Resolved by resolu #MDI_CONNECTO	tion to comment 315.		
Comment Type E Editor's note has served SuggestedRemedy Delete editor's note	Comment Status A d its purpose, this text has nov	v been recirculate	<i>Editorial</i> ed twice	Cl 146 SC 146.8 Graber, Steffen Comment Type T	.1 P 116 Pepperl+Fuc Comment Status A eations . defined in 146.7.	L 40 hs GmbH	# 278 MDI
Response ACCEPT.	Response Status C			SuggestedRemedy	complete sentence by: For indu	strial application	s also a two nin
	P 116 HARTING Tech Comment Status A note a "better specificity of "loo	wer environment		M8/M12 connector IEC 61076-2-104, a 7/8" connector may defined in 146.7. Fo BI_DA+, Pin 2 - Sh	according to IEC 61076-3-125, according to IEC 61076-3-125, four pin M12 connector accord be used as long as it conforms or the four pin connectors the fo ield or drain wire, Pin 3 - BI_DA may also be connected to the ca	a four pin M8 cor ing to IEC 61076 to the requireme llowing pinout sh If a metal conn	nnector according to -2-101, or a four pin ents of the link segment all be used: Pin 1 -
here. SuggestedRemedy Alternatively for MICE 1 connector may be used				Response ACCEPT IN PRINC Resolved by resolu #MDI_CONNECTO	tion to comment 315.		
Response ACCEPT IN PRINCIPL Resolved by resolution #MDI_CONNECTORS							

C/ 146 SC 146.8.1

C/ 146 SC 146.8.1	P 116	L 40	# 310	C/ 146	SC 146.8.1	P 116	L 40	# 315
/laguire, Valerie	The Siemon Co	ompany		Horrmeyer,	Bernd	Phoenix Cont	lact	
Comment Type T (It's too early in the amendr M8/M12 interface. The sen SuggestedRemedy			M / calling out a specific	There a introduc	re several con ed a selecting	Comment Status A nectors announced as suitabl process for MICE1 and MICE asion process for recommend	E3 connectors. I	EEE802.3 asked also
Replace, "For industrial ap	plications also a four pin M	18/M12 accordi	ng to IEC 61076-3-125		ining a specifi	c type.		
or a four pin 7/8" connecto	r may be used" with, "For i			SuggestedF _	-			
M8/M12 or a four pin 7/8" or Response R ACCEPT IN PRINCIPLE. Resolved by resolution to or #MDI_CONNECTORS	esponse Status C			applicat Alternat long as tbd to b	ion in a MICE2 ively for applic		or according to Il ents another con	EC [tbd] may be used . Inector may be used as
Previous comments have to processes in our MDI connunecessary for technical of SuggestedRemedy Delete lines 40 through 49	ector selection. The selector completeness and premation (paragraphs 2 & 3 as well desponse Status C	o consider ISO tion of a conne ure	ector here is	MASTE Delete F Delete F "For ind pin 7/8" segmen requirer (BI_DA- The ser recomm recomm This res with our conside and TIA	P116 lines 40- ustrial application connector main the defined in 14 nents a TBD c of the conne asse of the Task nendation), so nendation can solves the exist response to c red before main	MDI_CONNECTORS	rms to the requir ons with lower es case pin TBD (optional MDI con ssential to techn er TBD to the dr. ses of ISO and T add when we get	ements of the link environmental (BI_DA+) and pin TBD nnector (a nical completeness. A aft, and aligns the draft TA groups should be responses from ISO
				the link isn't cor "This lea "The me and opt mechar 146.7." Add Edi	segment dea forming to the ves the sectio echanical inter ional SHIELD) iical shield cor itor's Note - a l	spite the ambiguity of the mat link segment requirements.) in 146.8.1 MDI Connectors re- ace to the balanced cabling i or alternatively a 2-pin conne nection which conforms to th aison is expected from ISO/I connector selection process	ing interface - b ading simply: s a 3-pin connect ctor with an opti e link segment s EC SC25 WG3	ut the connector itself ctor (BI_DA+, BI_DA-, ional additional specification defined in

C/ 146 SC 146.8.1 Page 45 of 81 5/22/2018 5:27:22 PM

C/ 146 SC 146.8.1	<i>P</i> 116	L 43	# 337	
Shariff, Masood	CommScope			-
Comment Type T C Improve specificity and prov note on line 46.	Comment Status A vide references to the sta	atement as reque	ested in the Edito	<i>MDI</i> ors
"Alternatively for application be used."	ns with lower environmen	tal requirements	a TBD connecto	or may
SuggestedRemedy				
"Alternatively for application hospitality, education) a cor selected by ISO/IEC/JTC1/	nnector specified by IEC	SC48B (e.g. IEC		
Response Re	esponse Status C			
ACCEPT IN PRINCIPLE. Resolved by resolution to c #MDI_CONNECTORS	omment 315.			
C/ 146 SC 146.8.1	P 116	L 43	# 279	
Graber, Steffen	Pepperl+Fuch	s GmbH		
Comment Type T C Alternatively for applications	Comment Status A s . shall be used.			MDI
SuggestedRemedy				
Please replace the complet environmental requirements case pin 3 (BI_DA+) and pin recommend also using a R TBD pinout, and there is a s	s, like MICE E1 or IP20 a n 6 (BI_DA-) of the conn J45 connector, if there is	RJ45 connecto ector shall be us need for anothe	r may be used. Ir ed. (I would r TBD connector	with

Response

ACCEPT IN PRINCIPLE. Resolved by resolution to comment 315. #MDI_CONNECTORS

Response Status C

C/ 146	SC	146.8.1	P1	16	L 46	# 280	
Graber, St	effen		Рерр	erl+Fucl	hs GmbH		
<i>Comment</i> Editor	<i>Type</i> 's Note	Е	Comment Status	Α			MDI
Suggested		•					
Please	e remov	e Editor's	Note, see previous	comme	nt.		
Resol ^e (editor	PT IN F ved by r r's note	PRINCIPLI resolution deleted) ECTORS	Response Status E. to comment 315.	С			
C/ 146	SC	146.8.3	P1	17	L 7	# 281	
Graber, St	effen		Рерр	erl+Fucl	hs GmbH		
<i>Comment</i> Editor	<i>Type</i> 's Note	т	Comment Status	Α			MDI
	e remov	ve Editor's	Note and replace th E-T1L MDI Return L			, 0	
Response			Response Status	С			
Remo Repla 20 dB	ve edito ce MDI - 18 dB	8 * log10(0	E. s equation with: .2/f) for 0.1 MHz <= <= 1 MHz	f < 0.2 I	MHz		

where f is the frequency in MHz.

C/ 146 SC 146.8.3

C/ 146 SC 146.8.3 P 117 L 14 # 333 Shariff, Masood CommScope CommScope CommScope CommScope	C/ 146 SC 146.9.1 P 118 L 10 # 412 Zimmerman, George CME Consulting et al 412
Comment Type T Comment Status A MDI Delete editors note on lines 7 - 10 and change equation 146-16 to use the proposed RL values in the remedy MDI MDI	Comment Type T Comment Status A Editorial Isolation ad hoc is not changing the sections in the base standard this is modifying. Editor's note is unnecessary. Editor's note is unnecessary.
SuggestedRemedy	SuggestedRemedy
Use these values for the RL from TIA-568.5 draft 0.5a 0.1 <= f < 0.5 9+9(f) 0.5 <= f <= 20 13.25	Delete editor's note. Response Response Status C ACCEPT.
Response Response Status C ACCEPT IN PRINCIPLE. Resolved by comment 281.	C/ 146 SC 146.9.2 P 118 L 23 # 336 Shariff, Masood CommScope CommScop
MDI return loss is not the same as connecting hardware return loss in TIA or ISO/IEC specifications. Must include effect of passive PHY circuitry which dominates in this case well beyond the connector contribution.	Comment Type ER Comment Status R Editorial Simplify and improve sentence: Editorial <
C/ 146 SC 146.8.3 P 117 L 19 # 411 Zimmerman, George CME Consulting et al	"In industrial applications, all 10BASE-T1L cabling shall be routed according to any applicable local, state or national standards considering all relevant safety requirements."
Comment Type E Comment Status A Editorial All values are subject to change. Editor's note is unnecessary	SuggestedRemedy "In industrial applications, 10BASE-T1L cabling shall be routed in accordance with applicable local, state or national safety requirements."
SuggestedRemedy Delete Editor's note	Response Response Status C REJECT.
Response Response Status C ACCEPT.	After much discussion of various possible rewordings, the Task Force recognized that the Isolation ad hoc is already working this text and it will almost surely change in the future.
C/ 146 SC 146.8.3 P 117 L 20 # 282	C/ 146 SC 146.11.3 P 121 L 38 # 283 Graber, Steffen Pepperl+Fuchs GmbH 283
Graber, Steffen Pepperl+Fuchs GmbH	Comment Type T Comment Status A AutoNeg 1.0 Vpp operating mode
Comment Type E Comment Status A Editorial Editor's Note	Suggested Demody
	SuggestedRemedy 2.4 Vpp operating mode (1.0 Vpp has been changed to be the default mode, 2.4 Vpp to be the additional option)

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general	C/ 146	Page 47 of 81
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SORT ORDER: Clause, Subclause, page, line		

C/ 146 SC 146.11.4 Graber, Steffen	.2.2 P 126 Pepperl+Fuchs	L 42 s GmbH	# 284	C/ 147 SC 147.1 Zimmerman, George	P 129 CME Consult	L 23 ing et al	# 413
Comment Type T Less than 2.76 Vpp for operating mode.	Comment Status A the 2.4 Vpp operating mode a	and less than 1.	<i>PMA Electrical</i> 15 Vpp for the 1.0 Vpp	Comment Type T DME 10BASE-T1S is i SuggestedRemedy	Comment Status A nherently energy efficient. No	o need to transm	EEI it separate LPIs.
	the 2.4 Vpp operating mode a been changed to align the max			Delete editor's note. Ir during Idle symbols ma separate low-power-idl	nsert New paragraph in its pla aking it inherently energy effic e (LPI) mode such as is defir	cient and without	t the need for a
Response ACCEPT.	Response Status C			Response ACCEPT IN PRINCIPL 2 changes: - Delete editor's note.	Response Status C E.		
C/ 147 SC 147.1 Brandt, David	P 129 Rockwell Auto	L 8 mation	# 472	- Insert New paragraph	i in its place: "DME-based 10 ergy efficient and without the ed in Clause 78."		
Comment Type E Typo	Comment Status A		EZ	<i>Cl</i> 147 <i>SC</i> 147.1 Pannell, Don	P 129 NXP (donald.	L 28	# 451
SuggestedRemedy Change from "PCS, ar	nd PMA" to "PCS and PMA"			Comment Type E	Comment Status A		Editoria
Response ACCEPT.	Response Status C			Clause 148, is also spe	r PHY Level Collision Avoida ecified in this clause."	ince (PLCA) fund	ctions, described in
Change "the PCS, and	PMA sublayers" to "the PCS	and PMA subla	yers"	SuggestedRemedy			O N I I
C/ 147 SC 147.1	P 129	L 9	# 473		upport for PHY Level Collision e 147.3.7 and Clause 148."	n Avoidance (PL	CA) functions are
Brandt, David	Rockwell Auto	mation		Response	Response Status C		
Comment Type E Typo	Comment Status A		EZ	ACCEPT IN PRINCIPL Change this: ====	.E.		
SuggestedRemedy Change "fully functiona specifications"	al and electrical specifications"	to "full function	al and electrical	An optional support for Clause 148, is also spe ====	PHY Level Collision Avoidar ecified in this clause.	nce (PLCA) func	tions, described in
Response	Response Status C			to this:			
ACCEPT.			functional and	Optional support for PH 147.3.7 and Clause 14	HY Level Collision Avoidance	e (PLCA) functior	ns are described in

C/ 147 SC 147.1

as discussed in ad-hoc, autonegotiation is N/A for half duplex or multi-drop Suggested/Remedy Add (Auto registration is not defined 10BASE-T1S PHY operating in half-duplex mode or multi-drop situation) Change this:	C/ 147 SC 147.1.1 iyer, venkat	P 129 microchip	L 36	# 360	<i>Cl</i> 147 Brandt, Da	SC 147.1.2 vid	P 129 Rockwell Au	L 44 Itomation	# 477
Suggested/Remedy Add (Auto regulation is not defined 10BASE-T1S PHY operating in half-duplex mode or multi-drop situation) Response Captor is compared to a single twisted-pair copper cable interconnecting up to at least TBD meters, achieving an overall effective rate of 10 Mb/s, shared among the nodes. Change to align with PAR modification P129 L41 # [499] Comment Type T Comment Status A Late Change to align with PAR modification Conductors' Response Status C ACCEPT. Response Status C Comment Type T Comme			alf duplex or mu	0	TBDs	exist. Page 151 li		to at least eight n	<i>TBDs</i> odes and 25 m of
ACCEPT IN PRINCIPLE. Change this: defined in Clause 22. Jones, Peter Cisco Communications on a mixing segment using a single twisted-pair copper cable, interconnecting up to at least 25m. PHYs may be attached in-line with the truk or at the end of stubs up to 10 cm. An overall effective rate of 10 Mb/s, shared and on the nodes. Suggested/Remedy Change 'single twisted-pair copper cable' to 'single balanced pair of conductors' Response Response Status C ACCEPT. ACCEPT. ACCEPT IN PRINCIPLE. Change to align with PAR modification ACCEPT. ACCEPT.	Add (Auto negotiation is	not defined 10BASE-T1S P	HY operating ir	half-duplex mode or	Suggested	Remedy			
Additionally, the 10BASE-TIS PHY may operate using half-duplex multidrop communications on a mixing segment using a single twisted-pair copper cable, interconnecting up to at least ED inters. Acceept with the trunk or at the end of stubs up to 10 cm. An overall effective rate of 10 Mb/s is shared among the nodes. Larger PHY count and reach are desirable in some applications and are not precluded.	ACCEPT IN PRINCIPLE Change this: ==== defined in Clause 22. ==== to this: ====		l for 10BASE-T ⁻	1S PHY operating in	comm segme PHYs 10 cm of 10 M among	unications on a m ent using a single with up to stubs and suppor /lb/s, shared	ixing twisted-pair copper cable i	nterconnecting up	o to at least TBD in-line
Jones, Peter Cisco Comment Type T Comment Status A Change to align with PAR modification SuggestedRemedy Change 'single twisted-pair copper cable" to "single balanced pair of conductors" Response Response Status C ACCEPT.	====		L 41	# 499	comm	opper cable,			
SuggestedRemedy Change "single twisted-pair copper cable" to "single balanced pair of conductors" Response Response Status C ACCEPT. ACCEPT IN PRINCIPLE. Change this:	Comment Type T	Comment Status A		Late	attached in-line with the trunk or at the end of stubs up to 10 cm. An overall effective of 10 Mb/s is shared among the nodes. Larger PHY count and reach are desirable in				
Response Response Status C ACCEPT. Additionally, the 10BASE-T1S PHY may operate using a single twisted-pair copper cable interconnecting up to at least TBD meters, achieving an overall effective rate of 10 Mb/s, shared among the nodes. ==== to this: ==== Additionally, the 10BASE-T1S PHY may operate using half-duplex multidrop communications on a mixing segment using a single twisted-pair copper cable, interconnecting up to at least TBD meters, achieving an overall effective rate of 10 Mb/s, shared among the nodes. ==== Additionally, the 10BASE-T1S PHY may operate using half-duplex multidrop communications on a mixing segment using a single twisted-pair copper cable, interconnecting up to at least 8 PHYs, to a trunk up to at least 25 m. PHY's may be attached in-line with the trunk or at the end of stubs up to 10 cm. An overall effective rate of 10 Mb/s is shared among the nodes. Larger PHY count and reach may be achieved provided the mixing segment specifications in 147.8 are met. ==== Note: spaces between values and units is to be non-breaking	SuggestedRemedy		balanced pair c	of conductors"	ACCE Chang		•		
Additionally, the 10BASE-T1S PHY may operate using half-duplex multidrop communications on a mixing segment using a single twisted-pair copper cable, interconnecting up to at least 8 PHYs, to a trunk up to at least 25 m. PHYs may be attached in-line with the trunk or at the end of stubs up to 10 cm. An overall effective rate of 10 Mb/s is shared among the nodes. Larger PHY count and reach may be achieved provided the mixing segment specifications in 147.8 are met. ==== Note: spaces between values and units is to be non-breaking	•	Response Status C			Addition comm interco to at le nodes ==== to this:	unications on a m onnecting up to at east TBD meters,	ixing segment using a sing least TBD in-line PHYs wi	gle twisted-pair co	opper cable ubs and supporting up
					Additic comm intercc attach of 10 M provide ====	unications on a m onnecting up to at ed in-line with the Ab/s is shared am ed the mixing seg	ixing segment using a sing least 8 PHYs, to a trunk u trunk or at the end of stub long the nodes. Larger PH ment specifications in 147	gle twisted-pair co p to at least 25 m s up to 10 cm. Ar Y count and reac .8 are met.	opper cable, . PHYs may be n overall effective rate
TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general C/ 147 Page 49 of 81	TVDE: TP/toobnicol required	EP/oditorial required CP/		T(technical E(aditorial C	Note: :	spaces between v		U U	Dogo 40 of 81

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COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 147.1.2	5/22/2018 5:27:23 PM
SORT ORDER: Clause, Subclause, page, line			

C/ 147 SC 147.1.2 P 129 L 45 # 414	CI 147 SC 147.1.2 P 129 L 45 # 439
CME Consulting et al	Pannell, Don NXP (donald.pannell@
Comment Type E Comment Status A TBD. "interconnecting up to at least TBD in-line PHYs with up to 10 cm stubs and supporting up to at least TBD meters," - has been defined as 8 in-line PHYs with up to at least 25 meters SuggestedRemedy Change to read "interconnecting up to at least 8 in-line PHYs with up to 10 cm stubs and supporting up to at least 25 meters."	Comment Type TR Comment Status A TBL Page 151 sub-clause 147.8 line 1 states "A mixing segment is specified based on automotive cabling supporting up to at least eight nodes and 25 m of cabling". But page 129 sub-clause 147.1.2 line 45 states "up to at least TBD in-line PHYs with up to 10 cm stubs and supporting at lest TBD meters" SuggestedRemedy
Pesponse Response Status C	Get rid of the TBD's on page 129 by referring to section 147.8 so these numbers are only in one place in the document (so it they change you will change all occurances).
ACCEPT IN PRINCIPLE. This has been dealt with by #477 Change this: ==== Additionally, the 10BASE-T1S PHY may operate using half-duplex multidrop communications on a mixing segment using a single twisted-pair copper cable interconnecting up to at least TBD in-line PHY's with up to 10 cm stubs and supporting up to at least TBD meters, achieving an overall effective rate of 10 Mb/s, shared among the nodes. ==== to this: ==== Additionally, the 10BASE-T1S PHY may operate using half-duplex multidrop communications on a mixing segment using a single twisted-pair copper cable, interconnecting up to at least 8 PHY's, to a trunk up to at least 25 m. PHY's may be attached in-line with the trunk or at the end of stubs up to 10 cm. An overall effective rate of 10 Mb/s is shared among the nodes. Larger PHY count and reach may be achieved provided the mixing segment specifications in 147.8 are met. ==== Note: spaces between values and units is to be non-breaking	Response Response Status C ACCEPT IN PRINCIPLE. Already dealt with by #477 Change this: ==== Additionally, the 10BASE-T1S PHY may operate using half-duplex multidrop communications on a mixing segment using a single twisted-pair copper cable interconnecting up to at least TBD in-line PHYs with up to 10 cm stubs and supporting up to at least TBD meters, achieving an overall effective rate of 10 Mb/s, shared among the nodes. ==== to this: ==== Additionally, the 10BASE-T1S PHY may operate using half-duplex multidrop communications on a mixing segment using a single twisted-pair copper cable, interconnecting up to at least 8 PHYs, to a trunk up to at least 25 m. PHYs may be attached in-line with the trunk or at the end of stubs up to 10 cm. An overall effective rate of 10 Mb/s is shared among the nodes. ==== Note: spaces between values and units is to be non-breaking
	Cl 147 SC 147.1.2 P 129 L 53 # 415 Zimmerman, George CME Consulting et al E Comment Type T Comment Status A E "12.5 MBd rate (+/- TBD). " - rate is redundant (Bd is rate), and tolerance is inappropriate here - this is not the specification for the signalling rate - this is general description. SuggestedRemedy Change "12.5 MBd rate (+/- TBD)." to "12.5 MBd." Response Response Status C ACCEPT. Change "12.5 MBd rate" to "12.5 MBd" C C

TYPE: TR/technical required ER/editorial required GR/general re	equired T/technical E/editorial G/general	C/ 147	Page 50 of 81
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C/ 147 SC 147.1.2 P 129 L 53 # 317 Orzelli, Antonio Canova Tech Canova Tech </td <td>C/ 147 SC 147.1.2 P 130 L 3 # 474 Brandt, David Rockwell Automation</td>	C/ 147 SC 147.1.2 P 130 L 3 # 474 Brandt, David Rockwell Automation
Comment Type T Comment Status A Scrambler Add scrambler proposal as in http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_scrambler.pdf SuggestedRemedy Scrambler SuggestedRemedy change "at a 12.5 MBd rate (± TBD). 4B/5B encoding is used to further improve EMC performance" with "at a 12.5 MBd rate (± TBD). A 17-bit self-synchronizing scrambler is used to improve the EMC performance. 4B/5B encoding is used to further improve EMC performance"	Comment Type E Comment Status A E Wrong link SuggestedRemedy Change text and link from 147.5 to 147.4. E Response Response Status C ACCEPT. Change link "147.5" to "147.4"
See attached PDF (slide 3).	C/ 147 SC 147.2 P 130 L 45 # 500 Jones, Peter Cisco
Response Response Status C ACCEPT. TASK FORCE TO DISCUSS #scrambler (THIS is the MASTER) Carry out first (red-ish) block of changes shown at page 3/17 of beruto_3cg_29_0418.pdf	Comment Type T Comment Status A La Change to align with PAR modification throughout rest of clause SuggestedRemedy La
C/ 147 SC 147.1.2 P 130 L 2 # 318 Orzelli, Antonio Canova Tech Canova Tech Scrambler Comment Type T Comment Status A Scrambler Add scrambler proposal as in Scrambler Scrambler	Change "single balanced twisted-pair cabling" to "a single balanced pair" <i>Response Response Status C</i> ACCEPT IN PRINCIPLE. On line number is 37, delete, ", in support of 10 Mb/s operations over single balanced
http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_scrambler.pdf	twisted-pair cabling".
SuggestedRemedy change "The 4B/5B mapping is contained in the PCS" with "The 4B/5B mapping and the scrambler are contained in the PCS"	C/ 147 SC 147.2 P 131 L 4 # 452 Pannell, Don NXP (donald.pannell@
See attached PDF (slide 3).	Comment Type TR Comment Status A E Right side of the figure is cut off.
Response Response Status C ACCEPT. TASK FORCE TO DISCUSS #scrambler (MASTER is #317)	SuggestedRemedy Readjust the size of the figure so that all of it's text shows. Response Response Status C
Carry out second (red-ish) block of changes shown at page 3/17 of beruto_3cg_29_0418.pdf	ACCEPT. Fix figure

C/ 147 SC 147.2

C/ 147 SC 147.2 Pannell, Don	P 131 NXP (donald.j	L 37 pannell@	# 429	C/ 147 CORDAR	SC 147. D, Jay	.3.2.1	P 133 BROADCOM	L 52	# 368
	Comment Status A / used the Media Independer Media Independent Interface	nt Interface (MII)	<i>Editoria</i>) as specified in Clause	l Comment	<i>Type</i> TF osed pream		nment Status D I, replace the paragrap	h beginning at li	<i>Scrambler</i> ne 52 with the
"The 10BASE-T1S PHY 22 instead of a Gigabit SuggestedRemedy Change to "The 10BAS specified in Clause 22." Response ACCEPT. Change "The 10BASE- in Clause 22 instead of Gigabit Media Independ	Media Independent Interface E-T1S PHY used the Media Don't need to specify what <i>Response Status</i> C T1S PHY uses the Media Ind	e (GMII)." Independent Int it isn't. That list dependent Interf e 10BASE-T1S	erface (MII) as would be huge. ace (MII) as specified	if prop followi Suggested Upon the PMA, of data multip issue. are tra the tw symbol If the I TXD< encod deass Proposed REJE This c TASK #Gola NOTE comm Repla ==== Upon symbol	ke assertio (Remedy the assertio which replate a are transmi- icative scra Twenty-four nsmitted into DOAM word ls using en- PMA does m 3:0> is ed into 5B serted. Response CT. Domment wa FORCE TCC (MASTER : Consider of ents : Consider of the assertio ls to the followed by 3:0> is ed into 5B serted.	nble adopted on of TX_EN ces the first nitted. It is r ambler from a to 5B symbol ds, starting v coding rules not support C symbols usir <i>Resj</i> as WITHDRA D DISCUSS as #369) comments # on of TX_EN an SSD, wh	, the PCS Transmit fur 16 bits of the preambl ecommended the data aligning with the paylo after Ga32 SYNC word obs using the encoding with the 7th preamble of specified in Table 14 DAM transmission, 24 ang encoding rules spect boonse Status Z WN by the commenter 388 and #393 immedia , the PCS Transmit fur	nction passes the e. After the Ga3 a be random to p ad and causing a l, if OAM is supp rules specified in potet, TXD<3:0> 7-1, until TX_EN bit times after the sified in Table 14 er. ately after resolu	e Ga32 SYNC word to 22 SYNC word, 24 bits revent the a peak emissions orted, two OAM octets n Table 147-1. After is encoded into 5B l is deasserted. e Ga32 SYNC word, 7-1, until TX_EN is tion of all #Golay group of three SYNC amble. Following SSD,
				==== with th ==== Upon the PM bits of multip issue.	is: he assertio IA, which re data are tra icative scra Twenty-fou	eplaces the f ansmitted. If ambler from a ir bit times a	first 16 bits of the prea t is recommended the aligning with the paylo	mble. After the C data be random ad and causing a if OAM is suppo	to prevent the a peak emissions orted, two OAM octets
TYPE: TR/technical required				G/general		·	C/ 14		Page 52 of 81

The E. Heredanica Fedunca Envolutional required Chargement	a required Treeninear Ereatenar ergeneral	8, 141	I ago or or or
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 147.3.2.1	5/22/2018 5:27:23 PM
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symbols using encoding rules specified in Table 147-1, until TX_EN is deasserted. If the PMA does not support OAM transmission, 24 bit times after the Ga32 SYNC word, TXD<3:0> is encoded into 5B symbols using encoding rules specified in Table 147-1, until TX_EN is deasserted.	Cl 147 SC 147.3.2.2 P 133 L 29 # 457 Brandt, David Rockwell Automation # 457 Comment Type T Comment Status A PCS PCS signal plca_en lacks reference to management interface register SuggestedRemedy PCS
CORDARO, Jay BROADCOM	Replace:
Comment Type TR Comment Status A Scrambler	The plca_en signal described in 148.4.5.2.
Add support for end delimitter for differential detection SuggestedRemedy	With:
Replace text as follows: "Following the deassertion of TX_EN, the PCS Transmit generates a special code ESD, followed by either ESDOK or ESDERR when a transmit error is encountered. ESDOK or ESDERR followed by a DME zero to assist in differential decoding. Response Response Status	The plca_en signal controls the optional PLCA function in the PCS. This signal is set to ON when PLCA ability bit in MDIO register 3.2292.13 is set to a one and PLCA enable bit in MDIO register 3.2291.13 is set to a one. This signal is set to OFF when PLCA ability bit in MDIO register 3.2292.13 is set to a zero or PLCA enable bit in MDIO register 3.2291.13 is set to a zero or PLCA enable bit in MDIO register 3.2291.13 is set to a zero. Values: ON or OFF
ACCEPT IN PRINCIPLE.	Response Response Status C
Resolved by response to comment #366.	ACCEPT IN PRINCIPLE. Change this:
	====
	==== The plca_en signal described in 148.4.5.2. When the optional PLCA RS is not implemented, plca_en shall be set to OFF ====
	The plca_en signal described in 148.4.5.2. When the optional PLCA RS is not implemented, plca_en shall be set to OFF

C/ 147 SC 147.3.2.2

C/ 147 SC 147.3.2.2 CORDARO, Jay	P 135 BROADCOM	L 9	# 369		147 RDARO,	SC 147.3 Jay	3.2.2	P 135 BROADCOM	L 20	# 366	
<i>If proposed preamble is adopted</i>	<i>nent Status</i> D d, replace current SYI	NC/SSD with pr	Scran oposed preamble te		<i>mment T</i> Add sup			nment Status A for differential detectior	ı	Scramb	oler
uggestedRemedy Replace "Sync and SSD" with G 1 0 1 1 1 0 1 0 0 0 1 1 1 1 0 1 left to right, top to bottom. The the first 16 bits of the preamble.	1 0 0 0] which is biph timing for the SYNC v	nase modulated	and transmitted fro	0 1 m	symbol.	ymbol con The purpo	ose of this s T1S packet	DME zero transmitted a symbol is to assist in dif ponse Status C			
oposed Response Respo REJECT. This comment was WITHDRAW	nse Status Z	:			ACCEP Cl. 147. - p134, change:	line 4:	CIPLE.				
TASK FORCE TO DISCUSS #Golay (THIS is the MASTER) NOTE: Consider comments #38 comments 3 changes: - Replace "SYNC" with "Ga32, a 1 0 1 0 0 0 1 1 1 1 0 1 1 1 0 0 0 right top to bottom. The timing	a 32 bit sync word def] which is biphase mo	fined as [1 0 1 odulated and tra	1 0 1 1 1 1 0 1 1 0 1 nsmitted from left to)	"When t shall pu Transm on the li to:	the PHY is t the PMD it. When op ne on rece	into a high i perating in p ipt of the 'l'	n half-duplex multidrop n mpedance state on rec point-topoint mode, the symbol."	eption of this s PMA shall drive	ymbol from the PCS e a zero voltage level	
right, top to bottom. The timing for the SYNC word is T3 so the SYNC word fits in the first 16 bits of the preamble. - Remove "SSD" - Remove "5B symbol defined as 'K' in 4B/5B encoding (see also Table 147-1)"				 147.4.2." Cl. 147.4.2 p145, line 1 Change " If the tx_sym parameter value is the special 5B symbol 'I', the PMD would act according to its operation mode, as follows: a) When in multidrop mode, the PMD shall be put into high-impedance/Z state, b) While in point-to-point mode, the PMD shall drive a differential voltage of 0 V (BI_DA+ = BI_DA-) instead 							
										C	
					to " If the tx_sym parameter value is the special 5B symbol 'I', the PMA shall, in order:						
					 a) Transmit an additional DME encoded 0 if the previous value of the tx_sym parameter was anything but the 5B symbol 'I' b) When operating in multidrop mode, put the PMD into high-impedance state c) When operating in point-to-point mode, have the PMD drive a differential voltage of 0 V (BI_DA+ = BI_DA-) 						,
YPE: TR/technical required ER/ec OMMENT STATUS: D/dispatched	A/accepted R/reject	•		0		Z/withdraw	'n	C/ 147 SC 147		Page 54 of 81 5/22/2018 5:2	

SORT ORDER: Clause, Subclause, page, line

-	
C/ 147 SC 147.3.2.3 P 135 L 27 # 319 Orzelli, Antonio Canova Tech Canova Tech	C/ 147 SC 147.3.2.3 P 136 L 5 # 371 CORDARO, Jay BROADCOM BROADCOM <td< th=""></td<>
Comment Type T Comment Status A Scrambler Add scrambler proposal as in http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_scrambler.pdf Scrambler Scrambler	Comment Type TR Comment Status D Scramble If proposed preamble is adopted, remove 4B/5B code word for BEACON in 4B5B Encoding table
SuggestedRemedy change ENCODE function description from "In the PCS transmit process, this function takes as its arguments the pcs_txd input data and returns the corresponding 5B symbol as defined in Table 147-1." to "In the PCS transmit process, this function takes as its arguments one data nibble, scrambles it into Sdn[3:0] as defined in 147.3.2.5 and returns the corresponding 5B symbol as defined in Table 147-1." See attached PDF (slide 4).	SuggestedRemedy remove N row from Table 147-1-4B/5B Encoding Proposed Response Response Status Z REJECT. This comment was WITHDRAWN by the commenter.
Response Response Status C ACCEPT. TASK FORCE TO DISCUSS #scrambler (MASTER is #317) Carry out first (red) block of changes shown at page 4/17 of beruto_3cg_29_0418.pdf Note: mind the link Note: mind the link	TASK FORCE TO DISCUSS #Golay (MASTER is #369) NOTE: Consider comments #388 and #393 immediately after resolution of all #Golay comments Remove "N N/A 01000 BEACON" from "Table 147-1-4B/5B Encoding"
C/ 147 SC 147.3.2.3 P 135 L 36 # 370 CORDARO, Jay BROADCOM	
Comment Type TR Comment Status D Scrambler If proposed preamble is adopted, remove 4B/5B code words for JK in 4B5B Encoding table SuggestedRemedy	
remove J and K rows from Table 147-1-4B/5B Encoding	
Proposed Response Response Status Z REJECT.	
This comment was WITHDRAWN by the commenter.	
TASK FORCE TO DISCUSS #Golay (MASTER is #369) NOTE: Consider comments #388 and #393 immediately after resolution of all #Golay comments 2 changes: - Remove "I N/A 11111 SILENCE" from "Table 147-1-4B/5B Encoding" - Remove "J N/A 11000 SYNC" from "Table 147-1-4B/5B Encoding"	

C/ 147 SC 147.3.2.3

C/ 147 SC 147.3.2.3 P 136 L 25 # 37 CORDARO, Jay BROADCOM	C/ 147 SC 147.3.2.3 P 137 L 18 # 373 CORDARO, Jay BROADCOM
Comment Type TR Comment Status D If proposed preamble adopted, add a table (Table 147-2) with 3 rows and 3 colur SuggestedRemedy create table with 3 rows: Row 1: Name Sequence Specified	(transmitting Ga32) to "A" SuggestedRemedy
Function Row2: Ga32 10110111101101101000111101010001111000 SYN Row3: Gb32 0001110100011101110110000000000000000	ON REJECT.
Proposed Response Response Status Z REJECT. This comment was WITHDRAWN by the commenter.	TASK FORCE TO DISCUSS #Golay (MASTER is #369) NOTE: Consider comments #388 and #393 immediately after resolution of all #Golay comments Replace current figure 147-4 by the figure shown at page 4/5 of figures_for_Gergely.docx
TASK FORCE TO DISCUSS #Golay (MASTER is #369) NOTE: Consider comments #388 and #393 immediately after resolution of all #G comments 2 changes:	CI 147 SC 147.3.2.3 P 138 L 32 # 374 CORDARO, Jay BROADCOM Comment Type TR Comment Status A Scram
 Create a new table as shown at page 5/5 of figures_for_Gergely.docx Put the note shown at page 5/5 of figures_for_Gergely.docx underneath in a normanner Note: in case of final acceptabnce, check preferred/best place for this with Mr. C 	SuggestedPomedy
	Response Response Status C ACCEPT IN PRINCIPLE.
	Resolved by response to comment #366.

C/ 147 SC 147.3.2.3

C/ 147 SC 147.3.2 Orzelli, Antonio	.5 P 138 Canova Tech	L 44	# 320	C/ 147 Orzelli, Antoni	SC 147.3.3 0	P 140 Canova Tech	L 1	# 316
SuggestedRemedy Add paragraph 147.3 Response ACCEPT IN PRINCIF TASK FORCE TO DI #scrambler (MASTEF 3 changes: - Add all red text sho - Add new (named) for degree first)	rg/3/cg/public/adhoc/beruto_3c .2.5 as reported in attached PD <i>Response Status</i> C PLE. SCUSS	PF (slide 5) 29_0418.pdf ange the order	of members (highest	SuggestedRe In figure 1 "ELSE" co See attac Response ACCEPT. 2 changes - Change	47-6 some of medy 47-6 substit 47-6 add mi pondition. hed PDF (sl s to figure 14 "pcs_rxer <=	Response Status C	E" in BAD_SS	ALSE" in BAD_SSD state
Cl 147 SC 147.3.3 CORDARO, Jay Comment Type TR if proposed preamble	e needed to decide number for P 139 BROADCOM Comment Status D accepted text for PCS RX and	L 1	# 375 Scrambler o change	Cl 147 CORDARO, J Comment Typ if propose	SC 147.3.3 ay be TR d preamble	f beruto_3cg_01_0518.pdf P 140 BROADCOM Comment Status D accepted text for PCS RX and	L 17 figure needs to	# 376 Scrambler o change
SYNC symbol from the Proposed Response REJECT.	ine defined in Figure 147-6 is tr ne PMA receive function. <i>Response Status</i> Z /ITHDRAWN by the commente		detection of Ga32	Proposed Res REJECT.	gure Figure ⁻ sponse	47-6 with proposed figure <i>Response Status</i> Z THDRAWN by the commenter	r.	
comments				#Golay (N NOTE: Co comment: Replace o figures_fo Note: in c	s current figure r_Gergely.d ase of accep	369) nents #388 and #393 immedia 147-6 by the 2 figures shown	at pages 2/5 a e 2 into 1, or ev	ind 3/5

C/ 147 SC 147.3.3

C/ 147	SC 147.3.3	P 140	L 25	# 324	C/ 147	SC 147.3.3.		L 25	# 322		
Orzelli, Anto	nio	Canova Tech			Orzelli, Ante	onio	Canova Teo	h	-		
	ambler proposal	Comment Status A as in s/cg/public/adhoc/beruto_3c	g_scrambler.pc	Scrambler If		rambler propos	Comment Status A al as in g/3/cg/public/adhoc/beruto_	3cg_scrambler.pc	Scrambler		
SuggestedR	Remedy				Suggested	Remedy					
In figure PRE; ac	e 147-6 change s dd transition from	int <= 0" in state WAIT_SSE tate "PRE1" in state "PRE"; PRE to PRE with condition	add "precnt <=			riable "precnt" ached PDF (sli	with description "counter for de 7).	preamble regene	eration"		
In figure In figure	e 147-6 remove s e 147-7 remove s	ndition "RSCD * precnt = 9". tate PRE2 and state PRE3 tate PRE3 with relative trans ition from "A" to DATA.		nsitions.	-	PT. FORCE TO DIS					
Add edit	torial note: "figure	e 147-6 and 147-7 could be	merged".		Add the	e red-ish text sl	nown at page 7/17 of beruto	_3cg_29_0418.pc	lf		
See atta	ached PDF (slide	9).			Cl 147	SC 147.3.3.	2 P 139	L 42	# 321		
Response	,	Response Status C			Orzelli, Ante	onio	Canova Teo	h			
#scramb Carry ou	ORCE TO DISC oler (MASTER is ut all red changes tip the merging (I	#317) s shown at page 9/17 of ber	uto_3cg_29_04	I18.pdf	http://w Suggestedi	Remedy	g/3/cg/public/adhoc/beruto_	0			
<i>CI</i> 147 CORDARO,	SC 147.3.3 Jay	P 141 BROADCOM	L 8	# 377	change DECODE function description from "In the PCS Receive process, this function takes as its arguments the RX input data from PMA and returns the corresponding 4B MII data as defined in Table 147-1. If a violation of the encoding rules is detected, PCS Receive asserts the signal RX_ER for at least one symbol period" to "In the PCS Receive process, this function takes as its arguments one 5B symbol, decodes the corresponding nibble as defined in Table 147-1 and returns the descrambled result as defined in 147.3.3.4. If a violation of the encoding rules is detected, PCS Receive asserts the signal						
Comment Ty if propos		Comment Status D cepted text for PCS RX and	figure needs to	Scrambler o change							
SuggestedR							e symbol period"		0		
	• •	7-7 with proposed figure			See att	ached PDF (sli	de 6).				
Proposed R		Response Status Z			Response		Response Status C				
	REJECT. This comment was WITHDRAWN by the commenter.					ACCEPT. TASK FORCE TO DISCUSS #scrambler (MASTER is #317) Carry out all red changes shown at page 6/17 of beruto 3cg 29 0418.pdf					
#Golay			ately after resol	ution of all #Golay		nind the links		01010_009_20_0	i cipal		
		47-7 by the figure shown at	page 1/5 of figu	ires_for_Gergely.docx							

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 147 SC 147.3.3.2 Page 58 of 81 5/22/2018 5:27:23 PM

C/ 147 SC 147.3.3.3 P 140 L # 361 yer, venkat microchip microc	C/ 147 SC 147.3.3.3 P 141 L 23 # 357 iyer, venkat microchip microchip microchip 357						
Comment Type T Comment Status R State Diagram PRE2/3 actions need to be filled in	Comment Type T Comment Status R PC Exit condition from DATA to GOOD_ESD should look at RX(n-2) for ESD and RX(n-1) for ESDOK						
SuggestedRemedy copy actions from PRE1	SuggestedRemedy						
Response Response Status C	change as indicated in comment Response Response Status C						
It appears in IEEE state diagram style definition you shall not repeat assignments unless you want to "refresh" the variable (for variables that do something on write despite the value that is being written) but indeed this is not the case.	REJECT. See http://www.ieee802.org/3/cg/public/Jan2018/beruto_3cg_01_0118.pdf slides 2 & 3. The difference between the two branches is to maintain decoding on an even nibble boundary:						
C/ 147 SC 147.3.3.3 P 141 L # 362 yer, venkat microchip microc	In DATA state we're decoding RXn-4 - GOOD ESD case: It is correct to exit when the {ESD, ESDOK} symbols are found in RXn-						
Comment Type T Comment Status R State Diagram PRE4 actions need to be filled in	 3 and RXn-2 respectively, otherwise you are going to miss the last data symbols. BAD ESD case: The MAC expects the PHY to always decode an even number of nibb otherwise an alignment error is reported, and therefore, we look for an ESDERR one 						
SuggestedRemedy copy actions from PRE1	symbol earlier than in the GOOD ESD case and stop decoding on an even boundary.C/147SC147.3.3.4P 139L 51# 323Orzelli, AntonioCanova Tech						
Response Response Status C							
REJECT. It appears in IEEE state diagram style definition you shall not repeat assignments unless you want to "refresh" the variable (for variables that do something on write despite the	Comment Type T Comment Status A Scran Add scrambler proposal as in http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_scrambler.pdf Scran Scran						
value that is being written) but indeed this is not the case. See also #361	SuggestedRemedy						
	Add paragraph 147.3.3.4 as reported in attached PDF (slide 8)						
	Response Response Status C						
	ACCEPT IN PRINCIPLE. TASK FORCE TO DISCUSS #scrambler (MASTER is #317) 2 changes:						

Note: Editorial license needed to decide figure number

C/ 147 SC 147.3.3.4

CI 147 SC 147.3.7.1 P 143 L 10 # 430	CI 147 SC 147.3.7.1 P 143 L 10 # 378
Pannell, Don NXP (donald.pannell@	CORDARO, Jay BROADCOM
Comment TypeTRComment StatusAPLCA"When a sequence of at least two consecutive 'N' symbols is received" & on page 168 line21 Sub-clause 148.4.5.3 states that the BEACON_TIMER's "Duration shall be enough to allow all PHYs to properly recover the BEACON indication."	Comment Type TR Comment Status D Scrambler see comment on row 13, above SuggestedRemedy SuggestedRemedy SuggestedRemedy When a Gb32 BEACON is received (see Table 147-2), the MII signals SuggestedRemedy SuggestedRemedy
SuggestedRemedy Page 143's text appears to be an indirect 'shall' as an extension of the previous paragraph's 'shall'. But page 168's text's 'shall' does not state what is requred for "all PHYs to properly recover the BEACON indication". This should have a minimum value of 15 bit times so that at least 3 BEACON symbols are transmitted during each BEACON signal.	RX_DV, RX_ER and RXD shall be set to the BEACON indication as shown in Table 22-2, overriding the current state. Override shall cease as soon as the the BEACON timer has expired. Proposed Response Response Status Z REJECT. Response Status Z
Response Response Status C ACCEPT IN PRINCIPLE. Change this in "148.4.5.4 Timers" from: ==== Times the duration of the BEACON signal. Timer value shall be defined within specific Reconciliation sublayers. Duration shall be enough to allow all PHYs to properly recover the BEACON indication. ==== to this:	This comment was WITHDRAWN by the commenter. TASK FORCE TO DISCUSS #Golay (MASTER is #369) NOTE: Consider comments #388 and #393 immediately after resolution of all #Golay comments Replace the following paragraph:
==== Times the duration of the BEACON signal. Timer value shall be 20 bit times. ====	When a Gb32 BEACON is received (see Table 147-2), the MII signals RX_DV, RX_ER and RXD shall be set to the BEACON indication as shown in Table 22-2, overriding the current state. Override shall cease as soon as the currently received symbol is anything other than a 'N' code. ==== by this: ==== When a Gb32 BEACON is received (see Table 147-2), the MII signals RX_DV, RX_ER and RXD shall be set to the BEACON indication as shown in Table 22-2, overriding the current state. Override shall cease as soon as the BEACON indication as shown in the total cease as soon as the BEACON indication as shown in Table 22-2. When a Gb32 BEACON is received (see Table 147-2), the MII signals RX_DV, RX_ER and RXD shall be set to the BEACON indication as shown in Table 22-2, overriding the current state. Override shall cease as soon as the BEACON timer has expired. ==== Note: mind the 2 table links

C/ 147 SC 147.3.7.1

C/ 147 SC 147.3.7. CORDARO, Jay	2 P 143 BROADCOM	L 19	# 379	C/ 147 Zimmerma	SC 147.4.2 an, George	P 144 CME Consult	L 50 ing et al	# 416
Comment Type TR see comment on row	Comment Status D 13, above		Scrambler		's note is unclea	Comment Status A ar in itself and adds to lack of a equirements belong in the PM/		<i>Editoria</i> t requirement is
RX_DV, RX_ER and	signal is detected, the MII signa RXD shall be set to the COMMIT		shown in Table 22-2,	Suggestee Delete	dRemedy e editors note.			
overriding the current state. Overrid	e shall cease as soon as SYNC	timer has expir	ed.	Response		Response Status C		
Proposed Response	Response Status Z			ACCE	PT.			
REJECT.	,			C/ 147	SC 147.4.2	P 145	L 16	# 434
This commont was W	ITHDRAWN by the commenter.			Pannell, D	on	NXP (donald.	pannell@	
	THIDRAWN by the commenter.			Comment	Type TR	Comment Status A		PMA
TASK FORCE TO DI #Golay (MASTER is #	‡ 369)	oly offer recelut	ion of all #Colory	one 'J	and then the 'h	is just an example, is confusir \'when sub-clause 147.4.3 lin ansmission, the symbol seque	e 39 (just below	the figure) indicates
comments	ments #388 and #393 immediat	ely aller resolut	lion of all #Golay	Suggestee	dRemedy			
Replace the following	paragraph:			Fix the	e figure.			
When a sequence of the MII signals RX_D in Table 22-2, overrid received symbol is an ====	at least two consecutive 'J' symł V, RX_ER and RXD shall be set ng the current state. Override sł ything other than a 'J' code.	to the COMMI	r indication as shown	Remo	PT IN PRINCIP ve "Figure 147- read through ne	Response Status C PLE. 9—Example DME encoding o ighboring text to see if there a		
by this: ====				C/ 147	SC 147.4.3	P 145	L 31	# 298
	signal is detected, the MII signal dication as shown in Table 22-2			Maguire, \	/alerie	The Siemon (Company	
	as soon as SYNC timer has exp		current state.	<i>Comment</i> Align	51	Comment Status A es with revised objectives.		Editorial
				Suggestee	dRemedy			
C/ 147 SC 147.4.2	P 144	L 42	# 433	Repla	ce, "single pair"	with "single balanced pair"		
Pannell, Don	NXP (donald.pa	innell@		Response	•	Response Status C		
Comment Type TR Parameter T1's descr	Comment Status A iption in Table 147-2 ends with a	an "*".	PMA	ACCE Chang		e pair into" to "on the single ba	lanced pair into"	
SuggestedRemedy Remove the "*" or cor	nplete the description.							
Response	Response Status C							
ACCEPT. Change "Delay betwe	en transmissions *" to "Delay be	tween transmis	ssions"					
TVDE: TD/toobnical roqui	red ER/editorial required GR/ac	noral required	T/technical E/aditorial C/	nonoral		CL 1/	47	Page 61 of 81

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 147	Page 61 of 81
SC 147.4.3	5/22/2018 5:27:23 PM

<i>Cl</i> 147 Pannell, D	SC 147. Ion	4.3	P 145 NXP (donald.	L 35 pannell@	# 437		<i>Cl</i> 147 Pannell, D		147.4.3		P 145 NXP (donald.	L 39 .pannell@	# 436
Pannell, Don NXP (donald.pannell@ Comment Type TR Comment Status A PMA Line 35 states "The PMA receive function shall recover encoded clock" and line 39 states "the sequence J/J/J/K"."is meant to allow the receiver to achieve such synchronization." It is not clear that all the reciever's PPL's will be able to lock their clocks such that no more than a single 'J' symbol is missed (i.e., in 1 symbol time). Consider the maximum number of PHYs on the net (say 16) and all are quiet. The only clock comes from the BEACON which is separated by 16 x 200 ns (as no one sends anything during idles). When some other PHY wants to Tx, all the other PHY's must lock to the Tx PHY's clock. In 10BASE-T the 7 byte preamble is used for this purpose and most of the preable time was needed in the Rx PHY to prevent CRC errors in the received frame. SuggestedRemedy The 'J/K' Start of Stream Delimiter was added in 100BASE-TX where the size of the preamble was not as critical since the idle symbols were constantly transmitted allowing the clocks to always remain locked. These active idle times are the reason Energy Efficient Ethernet (EEE) was not needed for 10BASE-T, but was for any faster PHYs. Where is the analysis that shows no more than one 'J' symbol will ever be lost and that that is suficient to lock all PHYs on the shared media? At the very least add an SSD_TIMER in sub-clause 148.4.5.4 that defines in symbol increments how many 'J's should be transmitted at the start of the MAC's preamble before a 'K' is inserted. Valid #'s are 0 (no SSD), 1, 3, 5, 7, 9, 11). Or removed the SSD as 10BASE-T does not have this, & let the PHYs lock their clocks as done in 10BASE-T.					ates n." It ore nber NN me SE-T d in	Comment Type TR Comment Status A PA Line 39 states "which replaces the first 20 bit of packet preamble". But the preamble from the MAC's point of view is 4 bit nibbles. SuggestedRemedy To make this clear change "the first 20 bit of packet preamble" with "the first 20 bits (in the 5b space) of packet preamble". Response Response Status C ACCEPT IN PRINCIPLE. This text is being removed/chagned by #437 Replace the following sentences: ==== 5B boundary. At the start of each transmission, the symbol sequence J/J/J/K which replaces the first 20 bit of packet preamble is meant to allow the receiver to achieve such synchronization. ==== by these:							
					ER in (no								
Response	•	Res	ponse Status C										
ACCE Replace ==== 5B boo replace	PT IN PRIN ce the follow undary. At t ses the first is ronization.	ving sentend	ces: each transmission, the eket preamble is mean			uch							
==== 5B bo	undary with	n 1.2 us.											
====	-												

Note: use Greek small mu instead of u

C/ 147 SC 147.4.3

C/ 147 SC 147.4.3 P 145 L 39 # 381 CORDARO, Jay BROADCOM B	Cl 147 SC 147.4.3 P 145 L 39 # 435 Pannell, Don NXP (donald.pannell@						
Comment Type TR Comment Status D Scrambler PMA receive updated to show Ga32 as preamble SuggestedRemedy SuggestedRemedy State Stat	Comment Type TR Comment Status A PMA Line 35 states "The PMA receive function shall recover encoded clock" and line 39 states "the sequence J/J/J/K"."is meant to allow the receiver to achieve such synchronization." It is assumed "such synchronization" is referring to "recover encoded clock" but since these are two separate paragraphs it is not clear. SuggestedRemedy						
Proposed Response Response Status Z REJECT. This comment was WITHDRAWN by the commenter.	If this connection is correct, combine these two paragraphs into one. Response Response Status C ACCEPT IN PRINCIPLE. This text is being removed/chagned by #437 Replace the following sentences:						
TASK FORCE TO DISCUSS #Golay (MASTER is #369) NOTE: Consider comments #388 and #393 immediately after resolution of all #Golay comments Replace the following paragraph: ==== At the start of each transmission, the symbol sequence J/J/J/K which replaces the first 20 bit of packet preamble is meant to allow the receiver to achieve such synchronization. ==== by this: ====	 5B boundary. At the start of each transmission, the symbol sequence J/J/J/K which replaces the first 20 bit of packet preamble is meant to allow the receiver to achieve such synchronization. ==== by these: ==== 5B boundary within 1.2 us. ==== Note: use Greek small mu instead of u 						

At the start of each packet transmission, the Ga32 SYNC sequence replaces the first 16 bits of the the preamble. The Ga32 SYNC sequence is meant to allow the receiver to achieve robust synchronization.

====

C/ 147 SC 147.4.3

C/ 147 SC 147.4.25 P 145 L 15 # 380 CORDARO, Jay BROADCOM BROADCOM	C/ 147 SC 147.5.1 P 146 L 16 # 358 iyer, venkat microchip microchip
Comment Type TR Comment Status D Scrambler replace figure 147-9 if proposed preamble accepted with figure which will be provided which shows Ga32 preamble with DME encoded DATA and then I (SILENCE) Scrambler	Comment Type T Comment Status A Test Mode DME doesn't define +1, -1 SuggestedRemedy
SuggestedRemedy Replace Figure 147-9	replace with "repeatedly transmit DME encoded 1"
Proposed Response Response Status Z REJECT.	Response Response Status C ACCEPT IN PRINCIPLE. Change this:
This comment was WITHDRAWN by the commenter.	When test mode 1 is enabled, the PHY shall repeatedly transmit the data symbol sequence +1/-1.
TASK FORCE TO DISCUSS #Golay (MASTER is #369) NOTE: Consider comments #388 and #393 immediately after resolution of all #Golay comments Replace figure 147-9 with the one at page 1 of 3 of figures_for_Gergely_2_1.docx from Mr.	===== to this: ===== When test mode 1 is enabled, the PHY shall repeatedly transmit DME encoded ones. ====
Cordaro Note: the "don't care" (transient) states under "." and "DATA" can use any other (unambiguous) symbol, according to eh 802.3 habits and the capabilities of Frame	C/ 147 SC 147.5.1 P 146 L 19 # 359 iyer, venkat microchip
C/ 147 SC 147.5 P 145 L 51 # 417 Zimmerman, George CME Consulting et al CME Consulting et al CME Consulting et al CME Consulting et al	Comment Type T Comment Status D Test Mode DME doesn't define +1, -1
Comment Type T Comment Status A PMA	SuggestedRemedy remove test mode 2 since there is no droop with DME
Copy in text from Clauses 146.5.1.1 and 146.5.1.2 as 147.5. SuggestedRemedy Copy in text and structure from 146.5.1, 146.5.1.1 and 146.5.1.2 as 147.5.1, 147.5.1.1, and 147.5.1.2. Renumber subsequent clauses, starting with 147.5.2 (currently 147.5.1)	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. DEFERRED There is droop in DME (there can be droop in 80ns).
Response Response Status C ACCEPT. With editorial license to decide final clause number (147.5.1.1/2 may not be it)	TODO: add a new Editor's Note that says "Droop Specification is needed"

C/ 147 SC 147.5.1

C/ 147 SC 147.5.1 P 146 L 22 # 419 Zimmerman, George CME Consulting et al CME Consulting et al Email Co	CI 147 SC 147.5.2 P 146 L 46 # 422 Zimmerman, George CME Consulting et al CME CME<				
Comment Type T Comment Status A Test Mode Generation of pseudorandom sequence is described in text that follows. Editor's note is no longer necessary SuggestedRemedy Editor's note	Comment Type E Comment Status A Editoria The Transmitter test fixture for the PSD mask is shown in the PSD mask section. Figure 146-10 is a duplicate SuggestedRemedy Editoria Delete figure 146-10 Editoria Editoria Editoria				
Response Response Status C ACCEPT. Delete the following editor's note:	Response Response Status C ACCEPT IN PRINCIPLE. Delete figure 147-10 Note: check renumbering to go OK Note: make sure 147-10 is not referenced (directly or indiretly)				
How to generate the sequence below needs to be determined. ==== C/ 147 SC 147.5.2 P 146 L 35 # 420	C/ 147 SC 147.5.2.1 P 147 L 1 # 423 Zimmerman, George CME Consulting et al CME Consulting et al CME Consulting et al CME Consulting et al				
Zimmerman, George CME Consulting et al Comment Type E Comment Status A Editorial The text on line 35 should refer to Figure 147-11.	Comment TypeEComment StatusAEditorial147.5.2.1 should be 147.5.3, and 147.5.3 is blank.SuggestedRemedyDelete 147.5.2.1 and editor's note on P147 line 3-6. Change 147.5.3 (currently blank), so that 147.5.3 is Transmitter electrical specifications and 147.5.3.1 is Transmitter output voltage				
SuggestedRemedy Test fixtures: Change title of 147.5.2 to Test fixtures. Change text at line 35 from Figure					
147-10 to Figure 147-11. Move anchor for Figure 147-11 to P146 L35. Response Response Status C ACCEPT IN PRINCIPLE. 3 changes: - Change title of 147.5.2 from "Test fixture" to "Test fixtures" - Change "shown in Figure 147-10, or" to "shown in Figure 147-11, or" (use llink) - Move anchor of Figure 147-11 to 146/35	Response Response Status C ACCEPT IN PRINCIPLE. 3 changes to be done: - - Delete 147.5.2.1 along with the editor's note it has - - Change the number of 147.5.3 from "" to "Transmitter electrical specification"				

C/ 147 SC 147.5.2.1

C/ 147 SC 147.5.3.1 P 147 L 21 # 421 Zimmerman, George CME Consulting et al Employed al Employed al Employed al	C/ 147 SC 147.5.3.4 P 149 L 23 # 365 CORDARO, Jay BROADCOM BROADCOM <td< th=""></td<>				
Comment Type T Comment Status A Editorial "Transmitter output voltage can be set" There is only one transmitter output voltage setting.	Comment Type TR Comment Status A TBD. ± 100 ppm accuracy will not preclude operation of 802.1AS. Note to editor: Looser accuracy is possible especially with differential detection however it will preclude operation of 802.1AS.				
SuggestedRemedy Delete last 2 sentences of first paragraph of 147.5.3.1 (lines 21 - 23), starting with "Transmitter output voltage can be set", and also delete editor's note on lines 44-48. Delete lines 1 through 3 on page 148."Fixed transmitter driving levels" through "another interface." Response Response Status ACCEPT. 2 changes: - Remove this:	SuggestedRemedy The symbol transmission rate shall be within the range 12.5 MBd ± 100 ppm. Response Response Status ACCEPT. Change "12.5 MBd ± TBD ppm" to "12.5 MBd ± 100 ppm" Note: all the spaces shall we non-breaking (see other similar formulae) C/ 147 SC 147.8.1 P 151 L 25 440				
 ==== Transmitter output voltage can be set using the management interface or by hardware default set-up. Optionally, Auto-Negotiation can be used to find a common transmitter output voltage for the two PHYs. ==== Remove editor's note from 147/44-48. 	Pannell, Don NXP (donald.pannell@ Comment Type TR Comment Status A PML "specified for link segments in 147.8.1" points to itself. SuggestedRemedy SuggestedRemedy				
C/ 147 SC 147.5.3.4 P 149 L 23 # 438 Pannell, Don NXP (donald.pannell@ NXP 1438	Add in the Return loss content and refer to it or change the 1st sentence to "specified for link segments as specified below". Response Response Status C				
Comment Type TR Comment Status A PMA "The symbol tranmission rate shall be withing the range of 12.5 MBd +/- TDB ppm." does not help with network clock locking times. SuggestedRemedy Fill in the "TBD" with some target number that is cost effective so that network clock locking analysis can started. Us the same number from 10BASE-T or 100BASE-TX. Response Response Status C	ACCEPT IN PRINCIPLE. 2 changes to be done: - Change "link segments in 147.8.1 at any" to "link segments in 147.7.2 at any" (it is a lin - Change "specified for link segments in 147.8.2 between" to "specified for link segments 147.7.1 between" (it is a link)				
ACCEPT IN PRINCIPLE. Already dealt with by #365 Change "12.5 MBd ± TBD ppm" to "12.5 MBd ± 100 ppm" Note: all the spaces shall we non-breaking (see other similar formulae)					

C/ 147 SC 147.8.1

	P 151	L 26	# 479	C/ 1	47 SC	: 147.8.2	P 151	L 32	# 480
Brandt, David	Rockwell Auto	omation	-	Bran	dt, David		Rockwell A	utomation	-
Comment Type T Return Loss conditions ar say how many other attac whether they are attached http://www.ieee802.org/3/d guidance. Worst case sho	hment points, the physical by stubs or in-line. cg/public/Mar2018/brandt_	l location of the a	nment points" does r attachment points, ar	iot I id i i	not say how and whether http://www.ie	many other they are a eee802.org	Comment Status A ons are not specific enough er attachment points, the p attached by stubs or in-line g/3/cg/public/Mar2018/bran should be determined.	hysical location c	f the attachment points,
SuggestedRemedy				Sugg	lestedReme	edy			
Change from:				(Change fron	า:			
The mixing segment shall in 147.8.1 at any MDI attachment point, inc points disconnected or terminated in a minimum	luding ends of the mixing		-	nt l	egments in between any attachment	147.8.2 / two MDI points disc	hall meet the insertion loss attachment points of the m connected imum 10 kOhm impedance	ixing segment, w	
To:				-	ō:				
The mixing segment shall in 147.8.1 at any MDI attachment point, inc length up to 10 cm, and w presenting minimum paral attachment points. A refer	luding ends of the mixing s ith any combinations of up lel load attached at any co	segment, and at to at least seve ombination of pe	the end of stubs of n other MDIs	2 	egments in ADI attachm ength up to presenting n	147.8.2 b nent points 10 cm, an ninimum p	hall meet the insertion loss between any two s, including ends of the mix ad with any combinations of parallel load attached at any eference configuration TBE	ing segment, and up to at least se combination of p	I at the end of stubs of ven other MDIs
Response I	Response Status C			Res	onse		Response Status C		
ACCEPT IN PRINCIPLE.					CCEPT IN	-	LE.		
Change this:					Change this				
The mixing segment shall in 147.8.1 at any MDI atta other MDI attachment poir impedance.	chment point, including er	nds of the mixing	segment, with all	;	The mixing s segments in	147.8.2 b	hall meet the insertion loss retween any two MDI attach ent points disconnected or t	nment points of th	ie mixing segment, with
to this:					o this:				
==== The mixing segment shall in 147.8.1 at any MDI atta	meet the return loss chara chment point and with any nimum parallel load attach	combinations of	f up to at least sever	- 	egments in o 10 cm, an	147.8.2 b d with any	hall meet the insertion loss between any two MDI attach combinations of up to at le	ment and at the	end of stubs of length up MDIs presenting

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 147 SC 147.8.2 Page 67 of 81 5/22/2018 5:27:23 PM

Cl 147 SC 147.8.2 P 151 Pannell, Don NXP (do	L 38 nald.pannell@	# 441	<i>Cl</i> 147 Brandt, Da	SC 147.8.3	P 151 Rockwell Aut	L 38	# 481
Comment Type TR Comment Status A "specified for link segments in 147.8.2" points SuggestedRemedy Add in the Insertion loss content and refer to it link segments as specified below".	to itself.	PME ntence to "specified for	Comment Mode points attach determ	<i>Type</i> T Conversion Los does not say h ment points, an iined.	Comment Status A s conditions are not specific of now many other attachment p d whether they are attached b	enough. "All oth oints, the physic	cal location of the
Ink segments as specified below". Response Response Status C ACCEPT IN PRINCIPLE. Already dealt with by #440 2 changes to be done: - Change "link segments in 147.8.1 at any" to ' - Change "specified for link segments in 147.8. 147.7.1 between" (it is a link)	link segments in 147.		The m segme 147.8. MDI at points To: The m segme MDI at length preser attach <i>Response</i> ACCE 2 char - Char ==== The m segme	e from: ixing segment s at any MDI at tachment disconnected of ixing segment s ints in 147.8.3 a tachment point up to 10 cm, an ting minimum p ment points. A PT IN PRINCIP ges: ge this: ixing segment s ints in 147.8.3 a l other MDI atta ance.	s, including ends of the mixing ad with any combinations of u parallel load attached at any c reference configuration TBD i <i>Response Status</i> C	Is of the mixing) kOhm impedation on loss character g segment, and p to at least ser- combination of p s shown.	segment, with all other nce. eristics specified for link at the end of stubs of ven other MDIs bermissible MDI
			segme least s permis ====	nts in 147.8.3 a even other MDI sible MDI attac	shall meet the mode conversion at any MDI attachment points is presenting minimum paralle hment points. n 147.8.3 at any" to "segmen	and with any co el load attached	ombinations of up to at at any combination of

C/ 147 SC 147.8.3

C/ 147 SC 147.9.1 Zimmerman, George	P 152 CME Consulting e	L 3 et al	# 424	<i>Cl</i> 147 Brandt, Davi	SC 147.9.2 d	P 152 Rockwell Auto	L 5 omation	# 478
Comment Type T Comment Status A MDI MDI connectors can be filled in simply without choosing a connector. SuggestedRemedy MDI "The mechanical interface to the balanced cabling is a 3-pin connector (BI_DA+, BI_DA-, and SHIELD) or alternatively a 2-pin connector with an additional mechanical shield connection which conforms to the link segment specification defined in 147.7 or to the mixing segment specification defined in 147.8." Response Response Status C ACCEPT IN PRINCIPLE. MDI				initial cc http://ww SuggestedR Insert th The MD based o frequen Z = 1/sc R > 5 k0 440uH <	, ncept and valu ww.ieee802.org lemedy e following in I shall present n the following cy range: rtt((1/R)^2 + (Dhm c L < 1 mH	Comment Status A is not specified for the MDI. Thues: g/3/cg/public/Mar2018/brandt_ a minimum parallel impedance g impedance equation and limit 1/(2*pi*f*L) - 2*pi*f*C)^2)	_cg_01a_0318.j	pdf 1DI attachment points
Add the following text (paragpraph) to under "147.9.1 MDI connectors" (links must be taken care of): ===== The mechanical interface to the balanced cabling is a 3-pin connector (BI_DA+, BI_DA-, and optional SHIELD) or alternatively a 2-pin connector with an optional additional mechanical shield connection which conforms to the link segment specification defined in 147.7 or to the mixing segment specification defined in 147.8. ===== Notes: - This is an <exact> copy of the text proposed for "146.8.1 MDI Connectors"</exact>					I shall present n the following equency rang node is the ma TION>	Response Status C	ce across the M its for R, L, Ctor icitance across nment point:	IDI attachment points t and Cnode over the

- <EQUATION> is at beruto_3cg_02_0518.pdf, page 15/15
 - Equations should be numbered equations

C/ 147 SC 147.9.2

C/ 147 SC 147.9.2.1 P 152 L 9 # 425	C/ 147 SC 147.9.2.1 P 152 L 14 # 426	
Zimmerman, George CME Consulting et al	Zimmerman, George CME Consulting et al	
Comment Type T Comment Status D MDI MDI return loss specifies the termination. Requiring the termination of the MDI would specify an implementation. MDI	Comment Type T Comment Status A Upper frequency for MDI return loss should be consistent with mixing segment upper frequency - 40 MHz.	TBD
SuggestedRemedy Change "In multidrop configuration the MDI shall be terminated by two 100 ? (nominal) impedances	SuggestedRemedy Fill in TBD upper frequency in Equation 147-6 (lines 14 and 17) with 40 MHz.	
satisfying Equation (147-6) when measured with 100 ? ±1% impedance at the edges." to "The MDI return loss (RL) shall meet or exceed Equation (147-6) for all frequencies specified (with 100 ? ± 0.1 % reference impedance) at all times when the PHY is transmitting data." Proposed Response Response Status W	Response Response Status C ACCEPT IN PRINCIPLE. 2 changes: - Replace the 2 TBDs by "40" - Make the interval closed by replacing "< TBD" by "<= 40"	
PROPOSED ACCEPT IN PRINCIPLE. DEFERRED	C/ 147 SC 147.10 P 153 L 1 # 484 Brandt, David Rockwell Automation Rockwell Automation	
Change this: === In multidrop configuration the MDI shall be terminated by two 100 CAP_OMEGA (nominal) impedances satisfying Equation (147-6) when measured with 100 CAP_OMEGA ±1% impedance at the edges. ====	Comment Type E Comment Status A Typo SuggestedRemedy Remove D from end of: "specificationsD"	Lat
to ==== The MDI return loss (RL) shall meet or exceed Equation (147-6) for all frequencies specified (with 100 CAP_OMEGA ± 0.1 % reference impedance) at all times when the PHY	Response Response Status C ACCEPT.	
specified (with 100 CAP_OMEGA ± 0.1 % reference impedance) at all times when the PHY is transmitting data. ==== Notes:	C/ 147 SC 147.10 P 153 L 3 # 485 Brandt, David Rockwell Automation Rockwell Automation	
- CAP_OMEGA is capital omega - Spaces before CAP_OMEGA, ± and % are non-breaking - "Equation (147-6)" is a reference	Comment Type E Comment Status A Artifact	Lat
	SuggestedRemedy Remove Editor's note	
	Response Response Status C ACCEPT.	

C/ 147 SC 147.10

C/ 147 SC 147.10.1 Brandt, David	P 153 Rockwell Autom	L 7 nation	# 486		C/ 147 SC 147.10.2.2 P 153 L 13 # Brandt, David Rockwell Automation	489
Comment Type T Clause has no content	Comment Status A		L	.ate	Comment Type T Comment Status A Clause has no content	Late
SuggestedRemedy Insert text from slide 3 o	f submission "brandt_cg_01_	0518.pdf"			SuggestedRemedy Insert text from slide 6 of submission "brandt_cg_01_0518.pdf"	
Response ACCEPT. See page 3/6 of http://w	Response Status C ww.ieee802.org/3/cg/public/M	ay2018/brandt	t_cg_01_0518.pdf		Response Response Status C ACCEPT IN PRINCIPLE. Incorporate only this (first 2 senteces):	
Cl 147 SC 147.10.2 Brandt, David Comment Type T Clause has no content SuggestedRemedy	P 153 Rockwell Autom Comment Status A	L 9 nation	# [<u>487</u> L	ate	==== 147.10.2.2 Electromagnetic compatibility A system integrating the 10BASE-T1S PHY shall comply with applicable loca codes. In addition, the system may need to comply with more stringent requirements as agreed upon betwee and supplier, for the limitation of electromagnetic interference.	
Insert text from slide 4 o Response ACCEPT.	f submission "brandt_cg_01_0 Response Status C	·			from page 6/6 of this: http://www.ieee802.org/3/cg/public/May2018/brandt_cg <i>Cl</i> 147 <i>SC</i> Figure 147-2 <i>P</i> 131 <i>L</i> 5 # Brandt, David Rockwell Automation	_01_0518.pdf 475
Cl 147 SC 147.10.2.1 Brandt, David Comment Type T	ww.ieee802.org/3/cg/public/M P 153 Rockwell Autom Comment Status A	L 11	# 488	ate	Comment Type E Comment Status A Figure is chopped off at right SuggestedRemedy Adjust figure	EZ
Clause has no content SuggestedRemedy Insert text from slide 5 o Response ACCEPT IN PRINCIPLE	of submission "brandt_cg_01_0 <i>Response Status</i> C E.	0518.pdf"			Response Response Status C ACCEPT IN PRINCIPLE. Already dealt with by #452 Fix figure	
Insert new clause shown http://www.ieee802.org/3	n in slide 3 of 3/cg/public/May2018/brandt_c	g_02a_0518.p	odf			

Orzelli, Antonio Canova Tech	C/ 148 SC 148.4.4.1.1 P 161 L 43 # 442 Pannell, Don NXP (donald.pannell@
Comment Type T Comment Status A Editorial Proposal for PLCA Overview. SuggestedRemedy Add text to paragraph 148.2 as reported in attached PDF (slide 17). Editorial	Comment Type TR Comment Status A Primitives "PHY specifications are free to map the BEACON request to any suitable coding as long as the requirement defined herin are met." Since this section is talking about the MII interface, which can be an exposed interface, allowing for custom codes does not allow for interoperability.
Response Response Status C ACCEPT IN PRINCIPLE. Editor suggests a more compact description. Replace editor's note in subclause 148.2 with the following text: "The working principle of PLCA is that each PHY on a multidrop network is granted, in turn, a single transmit opportunity based on its assigned unique node ID. At any time, only the PHY owning a transmit opportunity is allowed to send data over the medium, therefore avoiding physical collisions. Transmit opportunities are generated in a round-robin fashion every time the PHY with node ID = 0 signals a BEACON on the medium, indicating the start of a new cycle. This can only happen after each PHY has been given exatly one transmit opportunity, thus ensuring media acccess fairness. PLCA relies on CSMA/CD functions to have the MAC delay a transmissions until a transmit opportunity is met."	SuggestedRemedy Change this to a shall use the code defined in Table 22-1. If this is not the intention, then this sentence needs to be clarified. Response Response Status C ACCEPT IN PRINCIPLE. Change "PHY specifications are free to map the BEACON request to any suitable coding as long as the requirement defined herein are met." to "PHY specifications are free to map the BEACON request to any suitable line coding as long as the requirement defined herein are met." This sentence actually refers to the BEACON at the MDI. The change now refers to "line coding" to avoid confusion with MII codes. Cl 148 SC 148.4.4.1.2 P 162 L 1 # 443 Pannell, Don NXP (donald.pannell@ Comment Type TR Comment Status A Primitives "PHY specifications are free to map the COMMIT request to any suitable coding as long as the requirement defined herin are met." SuggestedRemedy Comment Type TR Comment Status A Primitives "PHY specifications are free to defined in Table 22-1. If this is not the intention, then this sentence needs to be clarified. Response Status C Response Response Status C ACCEPT IN PRINCIPLE. Change "PHY specifications are free to map the COMMIT request to any suitable coding

C/ 148 SC 148.4.4.1.2

immerman, George	.4 P 163 CME Consult	L 3 ing et al	# 427		C/ 148 Orzelli, Ante	SC 148.4.5 onio	.1 P 163 Canova Tech	L 26	# 327
<i>Comment Type</i> E Editor's note has serve	Comment Status A	-		Editorial		de with ID = 0	Comment Status A could be reset in the middle o ON while other PHYs are still		
SuggestedRemedy Delete editor's note					their TO To avoi	D. Id this the node	e with ID = 0 could start in rec		
Response	Response Status C				Silent b Suggestedl	0	the BEACON.		
ACCEPT.							functions are enabled, the Pl	IY with local_no	deID variable set to 0
2/ 148 SC 148.4.5.1 immerman, George	P 163 CME Consult	L 20 ing et al	# 428		enable	d, the PHY wit	to SEND_BEACON state" h local_nodeID variable set to other PHYs to be silent for at	0 immediately s	witches to RECOVER
Comment Type E Figure 148-TBD appea	Comment Status A rs to refer to Figures 148-3 a	nd 148-4		EZ	state and waits for all other PHYs to be silent for at least RECV_BEACON_ switches to SEND_BEACON state"				
SuggestedRemedy					See att	ached PDF (s	lide 12).		
	D to "Figure 148-3 and Figur	e 148-4" (cross	references)		Response ACCEF		Response Status C		
					immedi SEND_ counter related With: "When immedi least R	ately switches BEACON stat and timer." PLCA function ately switches ECV_BEACO	ns are enabled, the PHY with to to to have all other PHYs sync hs are enabled, the PHY with to RECOVER state and waits N_TIMER. Then it switches to eir own transmit opportunity c	hronize their ow ocal_nodeID va for all other PH SEND_BEACO	n transmit opportunity riable set to 0 IYs to be silent for at
					C/ 148	SC 148.4.5		L 26	# 444
					Pannell, Do <i>Comment 1</i> "with lo	Type E	NXP (donald Comment Status A riable set to 0 immediately"	panneir@	EZ
					Suggestedl Change	-	_nodeID variable set to 0, imr	nediately" i.e., a	dd in the ',' after the '0'.
					Response		Response Status C		

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/generalC/148Page 73 of 81COMMENT STATUS: D/dispatched A/accepted R/rejectedRESPONSE STATUS: O/open W/written C/closed Z/withdrawnSC148.4.5.15/22/2018 5:27:23 PMSORT ORDER: Clause, Subclause, page, line

Cl 148 SC 148.4.5 Pannell, Don	5.1 P 163 L 28 NXP (donald.pannell@	# 445	C/ 148 Orzelli, Anto	SC 148.4.5.1 onio	<i>P</i> 165 Canova Tech	L 10	# 328
Response ACCEPT IN PRINCI Change "Slave PHYs This should have bee comments removing	ment Type E Comment Status A State Diagram Slave PHYs wait" state Diagram State Diagram restedRemedy C C change to "Slave PHYs (i.e., those with local_nodeID variable not set to 0) wait". State Diagram conse Response Status C ACCEPT IN PRINCIPLE. C Change "Slave PHYs" to "PHYs with nonzero local_nodeID" C This should have been fixed by comment 168 on d1p1 which was part of a number of comments removing the term "Slave PHYs" and "MASTER PHY" from PLCA. Comment 68 fixed other parts of the sentence but missed the term "Slave PHYs" at the start of this		Comment Type T Comment Status A State The node with ID = 0 could be reset in the middle of a BEACON cycle and start ov sending a new BEACON while other PHYs are still in the process of transmitting / their TO. To avoid this the node with ID = 0 could start in recovery mode and wait for the measilent before sending the BEACON. SuggestedRemedy In Figure 148-3 add a transition from DISABLE state to RECOVER state with descent plca_en = ON * local_nodeID = 0". In Figure 148-3 change transition from DISABLE to RESYNC state from "plca_en = "plca_en = ON * ELSE". See attached PDF (slide 13). Response Response Status C ACCEPT IN PRINCIPLE. C				
			ELSE is In Figur "plca_e In Figur "plca_e Where ' Note: se	s not appropriate re 148-3 add a t m = ON * local_ re 148-3 change m = ON * local_ '!=' stands for th ee updated pres	e from an editorial point of vir ransition from DISABLE state nodeID = 0". e transition from DISABLE to nodeID != 0". ne "not equal" symbol	e to RECOVER RESYNC state	from "plca_en = ON" to

http://www.ieee802.org/3/cg/public/May2018/beruto_3cg_01_0518.pdf

C/ 148 SC 148.4.5.1

C/ 148 SC 148.4.5.2 P 167 L 3 Brandt, David Rockwell Automation	# 476	C/ 148 SC 14 Brandt, David	48.4.5.2	P 167 Rockwell Auto	L 9 omation	# 463		
Comment Type T Comment Status A RS signal plca_reset lacks reference to management interface register	Management			nent Status A	interface register	Management		
SuggestedRemedy Replace:		SuggestedRemedy Replace:						
Generated by management interface (register TBD), resets the RS.		Generated by m	nanagement inter	face (register TBD)	, enables PLCA	functions.		
With:		With:						
The plca_reset signal is used to reset the optional PLCA function in the RS maps to ON when aPLCAReset is enabled and to OFF when aPLCAAdmi but is further qualified. This signal is only set to ON when PLCA ability bit in MDIO register 3.2292 one and PLCA enable bit in MDIO register 3.2291.13 is set to a one. This OFF when PLCA ability bit in MDIO register 3.2292.13 is set to a zero or F	The plca_en signal controls the optional PLCA function in the RS. This signal maps to C when aPLCAAdminState is enabled and to OFF when aPLCAAdminState is disabled. This signal is set to ON when PLCA ability bit in MDIO register 3.2292.13 is set to a one and PLCA enable bit in MDIO register 3.2291.13 is set to a OF when PLCA ability bit in MDIO register 3.2292.13 is set to a DF when PLCA ability bit in MDIO register 3.2292.13 is set to a Zero or PLCA enable bit in MDIO register 3.2292.13 is set to a Zero or PLCA enable bit in MDIO register 3.2292.13 is set to a Zero or PLCA enable bit in MDIO register 3.2292.13 is set to a Zero or PLCA enable bit in MDIO register 3.2292.13 is set to a Zero.							
in MDIO register 3.2291.13 is set to a zero.		Response	Respor	nse Status C				
Response Response Status C ACCEPT IN PRINCIPLE. Replace:		ACCEPT IN PRINCIPLE. Replace:						
Generated by management interface (register TBD), resets the RS.		Generated by m	nanagement inter	face (register TBD)	, enables PLCA	functions.		
With:		With:						
The plca_reset signal is used to reset the optional PLCA function in the RS maps to ON when aPLCAReset is enabled and to OFF when aPLCAAdmi but is further qualified. When the MDIO is present, this signal is only set to ON when PLCA ability register 3.2292.13 is set to a one and PLCA enable bit in MDIO register 3.2 a one. This signal is set to OFF when PLCA ability bit in MDIO register 3.2 a zero or PLCA enable bit in MDIO register 3.2291.13 is set to a zero. Wh present, the functionality of 3.2291.13 and 3.2291.13 can be provided by end	inState is normal, y bit in MDIO .2291.13 is set to 2292.13 is set to hen MDIO is not	when aPLCAAc When the MDIC 3.2292.13 is se This signal is se or PLCA enable	dminState is enab O is present, this s it to a one and PL et to OFF when P e bit in MDIO regis	bled and to OFF wh signal is set to ON CA enable bit in MI PLCA ability bit in M ster 3.2291.13 is se	en aPLCAAdmin when PLCA abili DIO register 3.22 DIO register 3.22 et to a zero. Whe	ty bit in MDIO register 291.13 is set to a one. 292.13 is set to a zero		

C/ 148 SC 148.4.5.2

C/ 148 SC 148.4.5.2 P 167 L 38 # 446 Pannell, Don NXP (donald.pannell@	C/ 148 SC 148.4.5.4 P 168 L 20 # 431 Pannell, Don NXP (donald.pannell@
Comment TypeTRComment StatusRState Diagram"Values: integer value from 0 to 255." does not match what is stated in sub-clause 147.8.	n Comment Type TR Comment Status A State Diagram "Times the duration of the BEACON signal." does not specifiy the units.
SuggestedRemedy Change to: "Values: 8-bit integer in the range defined in Table-XYZ in section 147.8." This clearly defines the size of the field and the expected range for conformance all in one place.	SuggestedRemedy Specify the units of this timer and its size (8-bits?). I suggest the units should be in number of BEACON symbols and not bit times. Else you have to define the proper operation for bit time values that are for a non-integer number of symbols!
Response Response Status C REJECT. The local_nodelD range should not be tied to a specific PHY in this generic RS. PLCA is designed for networks with a small number of nodes (see 148.1) and 255 is already an oversized value. Additionally, there is no reference to this in 147.8 as the commenter suggests.	Response Response Status C ACCEPT IN PRINCIPLE. Resolve with comment 430. (on clause 147) Change "BEACON_TIMER Times the duration of the BEACON signal. Timer value shall be defined within specific Reconciliation sublayers. Duration shall be enough to allow all PHYs to properly recover the BEACON indication."
Cl 148 SC 148.4.5.2 P 167 L 48 # 447 Pannell, Don NXP (donald.pannell@ State Diagram Comment Type TR Comment Status R State Diagram	 to "BEACON_TIMER Times the duration of the BEACON signal. Duration: 20 bit times."
"Values: integer value from 0 to 255." does not match what is stated in sub-clause 147.8. <i>SuggestedRemedy</i> Change to: "Values: 8-bit integer in the range defined in Table-XYZ in section 147.8." This clearly defines the size of the field and the expected range for conformance all in one place.	Note: already solved by comment 430 Cl 148 SC 148.4.5.4 P 168 L 25 # 448 Pannell, Don NXP (donald.pannell@ Comment Type TR Comment Status A State Diagram The RECV_TIMER's units are not specified. State Diagram
Response Response Status C REJECT. The local_nodeID range should not be tied to a specific PHY in this generic RS. PLCA is designed for networks with a small number of nodes (see 148.1) and 255 is already an oversized value. Additionally, there is no reference to this in 147.8 as the commenter suggests.	SuggestedRemedy Define the size of the RECV_TIMER (8-bit or 16-bit integer) and define its units. I recommend 5-bit symbols as the units to be consistent with the BEACON_TIMER. Response Response Status C ACCEPT IN PRINCIPLE. C Change line 27 from: "The actual value of this timer is implementation" to "Duration: This timer is implementation" on line 27.
	The comment suggests that the timer is a reported value rather than a timer in a state diagram. The description of the timer says that its duration is implementation-specific. Timers in 802.3 state diagrams do not state numbers of bits in representation nor units

(unless the units are to define the duration). See 40.4.5.2 (referencing 14.2.3.2) in IEEE Std 802.3-2015, defining how timers operate.

C/ 148 SC 148.4.5.4

C/ 148 SC 148.4.5.4 P 168 L 37 # 449 Pannell, Don NXP (donald.pannell@	C/ 148 SC 148.4.6 P 170 L 45 # 331 Orzelli, Antonio Canova Tech
Comment Type TR Comment Status A State Diagram The TO_TIMER's units are specified as bit times. But are these media bit times or MII bit times (i.e., are we in the 4b space or the 5b space). SuggestedRemedy SuggestedRemedy The size of the TO_TIMER is implied, but I would define it clearer to be a 16-bit integer and define its units. I recommend 5-bit symbols as the units to be consistent with the BEACON_TIMER.	Comment Type T Comment Status A TX_ER PLCA is not handling TX_ER. Add ABORT state in PLCA Data state machine to handle it. SuggestedRemedy In Figure 148-5 add state "ABORT" with description "packetPending <= FALSE".
Response Response Status C ACCEPT IN PRINCIPLE. Change "Value" to "Duration" on page 168 line 37.	In Figure 148-5 add a transition from ABORT state to IDLE state with condition "plca_txen = FALSE".
Clause 148 is not specific to c147, it's generic. Besides, the PLCA control state machine is not tied to any specific clock, as a result, bit times are specified as the duration.	In Figure 148-5 change transition from HOLD state to HOLD state condition from "MCD * committed = FALSE" to "MCD * ELSE".
The comment suggests that the timer is a reported value rather than a timer in a state diagram. Timers in 802.3 state diagrams do not state numbers of bits in representation nor units (unless the units are to define the duration). See 40.4.5.2 (referencing 14.2.3.2) in IEEE Std 802.3-2015, defining how timers operate.	See attached PDF (slide 16). <i>Response</i> ACCEPT IN PRINCIPLE. <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Re</i>
C/ 148 SC 148.4.5.4 P 168 L 43 # 450	Accept proposed change and also amend clause 22.2.5 TX_ER (transmit coding error).
Pannell, Don NXP (donald.pannell@	Change "Assertion of the TX_ER signal shall not affect the transmission of data when a
Comment Type TR Comment Status A State Diagram The RECV_BEACON_TIMER's units are not specified. State Diagram State Diagram	PHY is operating at 10Mb/s, or when TX_EN is deasserted." to "Assertion of the TX_ER signal shall not affect the transmission of data when a PHY is
SuggestedRemedy	operating at 10Mb/s (with the exception of 10BASE-T1S and 10BASE-T1L), or when TX_EN is deasserted"
Define the size of the RECV_TIMER (16-bit integer) and define its units. I recommend 5- bit symbols as the units to be consistent with the BEACON_TIMER.	
Response Response Status C ACCEPT IN PRINCIPLE. Change line 41 from "This timer value shall be set at least to TO_TIMER * MAX_ID + BEACON_TIMER for safe operations." to "Duration: The duration of this timer is controllable and should be at least TO_TIMER * MAX_ID + BEACON_TIMER for reliable operations."	
See comment 448 for a discussion of timers and units.	

C/ 148 SC 148.4.6

<i>Cl</i> 148 Brandt, Da	SC 148.4.6.1 vid	P 169 Rockwell Autor	L 14 mation	# 482	case the PLCA Data state machine switches encode and
Comment	Туре Е	Comment Status A		Editorial	transmit on the medium."
The va	riable delay line	is not adequately described.			To:
Suggested	Remedy				"During the HOLD state the F variable that data
	riable delay line e from:	in Figure 148-2			is available to be transmitted delay line. At next transmit op
•	the HOLD state e that data	the PLCA Control state mach	ine is notified v	ia the packetPending	allow transmitting the delayed case the PLCA Data state machine switches
eventu	ally	mitted. At next transmit opport	-		encode and transmit on the medium.
	ransmitting the d	lelayed data by setting the "co	mmitted" varial	ble to TRUE. In such	The variable delay line is a si
Data si encode	tate machine sw	itches to TRANSMIT state to a	actually deliver	the data for the PHY to	collisions by delaying transm opportunity for the node arriv TO_TIMER * MAX_ID + BEA
To:					C/ 148 SC 148.4.6.1
During	the HOLD state e that data	the PLCA Control state mach	ine is notified v	via the packetPending	Orzelli, Antonio
delay li	ine. At next trans	mitted and the beginning of the smit opportunity the PLCA Cor	ntrol state mach	hine	Comment Type T Co PLCA is not handling TX_ER
	ne PLCA	lelayed data by setting the "co	mmitted varial	DIE TO TRUE. IN SUCH	SuggestedRemedy
encode		itches to TRANSMIT state to a n.	actually deliver	the data for the PHY to	Add text "If TX_ER is asserte switches to ABORT state to a sending data. The aborted pa
		is a small buffer that is neces			See attached PDF (slide 14).
		ransmission to the MII interfac e arrives. The variable delay li			Response Res
	MER * MAX_ID.	c annos. The variable delay in		greater than	ACCEPT IN PRINCIPLE.
Response		Response Status C			Accept proposed change and
ACCE	PT IN PRINCIPL	Е.			
	EACON_TIMER ine size.	should also be taken into acco	ount while com	puting the maximum	Change "Assertion of the TX PHY is operating at 10Mb/s, to
Replac	e text:				"Assertion of the TX_ER sign operating at 10Mb/s (with the
	g the HOLD state e that data	e the PLCA Control state mac	nine is notified	via the packetPending	TX_EN is deasserted" Note: see comment 331
eventu	ally	mitted. At next transmit opport	-		
allow ti	ransmitting the d	lelayed data by setting the "co	mmitted" varial	ble to TRUE. In such	
		ed ER/editorial required GR/g spatched A/accepted R/reject			/general written C/closed Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

es to TRANSMIT state to actually deliver the data for the PHY to

PLCA Control state machine is notified via the packetPending

d and the beginning of the transmission is held in the variable opportunity the PLCA Control state machine

ed data by setting the "committed" variable to TRUE. In such

es to TRANSMIT state to actually deliver the data for the PHY to

small buffer that is necessary in order to avoid physical mission to the MII interface until the exclusive transmit ives. The variable delay line length is no greater than ACON_TIMER."

C/ 148	SC 148.4.6.1	P 169	L 19	# 329
Orzelli, Anto	nio	Canova Tech		
Comment Ty	vpe T	Comment Status A		TX_ER

R. Add ABORT state in PLCA Data state machine to handle it.

ted during the HOLD state, the PLCA_Data state machine assert packetPending = FALSE and to wait the MAC to stop packet will not be transmitted on the medium."

esponse Status C

nd also amend clause 22.2.2.5 TX_ER (transmit coding error).

X_ER signal shall not affect the transmission of data when a or when TX_EN is deasserted."

anal shall not affect the transmission of data when a PHY is he exception of 10BASE-T1S and 10BASE-T1L), or when

C/ 148	Page 78 of 81
SC 148.4.6.1	5/22/2018 5:27:23 PM

C/ 148 SC 148.4.6.1 Orzelli, Antonio	P 169 Canova Tech	L 23	# 325	C/ 148 Orzelli, Ante	SC 148. onio	4.6.1		P 171 Canova Tech	L 7	# 326
Comment Type T Comment Sta In mis-configured networks physical co In such case setting packetPending fla may cause trouble (e.g. COMMITTING	llisions might hap g in PLCA Data s	state machine in	State Diagram	Comment T In mis- In such	Type T configured case setti	networks ng packet	Pending fl	ollisions might	ata state machii	State Diagran
SuggestedRemedy				Suggested	Remedy					
change "During the COLLIDE state, the PLCA Data state machine asserts CARRIER_STATUS = CARRIER_ON via the PLS_CARRIER.indication primitive to prevent the MAC to make new" with "During the COLLIDE state, the PLCA Data state machine asserts packetPending = FALSE and CARRIER_STATUS = CARRIER_ON via the				In Figure 148-6 substitute "packetPending <= TRUE" with "packetPending <= FALSE" in state COLLIDE. In Figure 148-6 add "packetPending <= TRUE" in state PENDING.					ending <= FALSE" in	
PLS_CARRIER.indication primitive. Wi				See att	ached PDF	= (slide 11).			
described in Clause 4 it waits for the ne state.	ext transmit oppo		ning to PENDING	Response ACCEF	PT.	R	esponse S	tatus C		
During the PENDING state, the PLCA I and keeps CARRIER_STATUS = CAR primitive to prevent the MAC to make n	RIER_ON via the			Cl 148 Pannell, Do	SC 148.	4.6.1		P 171 NXP (donald.	L 30 pannell@	# 432
See attached PDF (slide 10).				Comment 1	Type TR	R C	Comment S	Status R		State Diagran
esponse Response Status C ACCEPT. Replace Text:				On pag consec "At the transm	ge 143 line sutive 'J' syn start of trai itted, but th	mbols is r nsmissior ne state di	eceived" & n, the syml iagram in F	on page 148	line 39 Sub-cla J/J/J/K" implies s not show the 1	ce of at least two use 147.4.3 states that
"During the COLLIDE state, the PLCA				Suggested	Remedv	U				
CARRIER_ON via the PLS_CARRIER.indication primitive to prevent the MAC to make new"			Show i	n Fig 148-6				mble octets into this as a 'shall' s	o the the SSD (Start of somewhere.	
With: "During the COLLIDE state, the PLCA FALSE and CARRIER_STATUS = CAR review When the MC here divided to	RRIER_ON via th to send the jam b	e PLS_CARRI	ER.indication	<i>Response</i> REJEC I believ PSD m	e the comr		esponse S referring to		e 39, not 148 lin	e 39 (page 148 is the
primitive. When the MAC has finished t for the next transmit opportunity by swit	tching to PENDI									

C/ 148 SC 148.4.6.1

C/ 148 SC 148.4.6.2 P 172 L 25 # 330 Orzelli, Antonio Canova Tech Image: Canova Tech <th>C/ 200 SC 200 P 183 L 12 # 501 Jones, Peter Cisco</th>	C/ 200 SC 200 P 183 L 12 # 501 Jones, Peter Cisco
Comment Type T Comment Status A TX_EF PLCA is not handling TX_ER. Add ABORT state in PLCA Data state machine to handle it. TX_EF TX_EF	Comment Type T Comment Status A La Change to align with PAR modification throughout rest of clause
SuggestedRemedy Add variable description "TX_ER The MII signal TX_ER."	SuggestedRemedy Change "single balanced twisted-pair cabling" to "a single balanced pair"
See attached PDF (slide 15).	Response Response Status C
Response Response Status C	ACCEPT IN PRINCIPLE.
ACCEPT IN PRINCIPLE. Accept proposed change and also amend clause 22.2.5. TX_ER (transmit coding error).	Change "single balanced twisted-pair Ethernet" to "single-pair Ethernet"
Change "Assertion of the TX_ER signal shall not affect the transmission of data when a	Cl 200 SC 200A.1.1.2 P 200 L 21 # 305 Maguire, Valerie The Siemon Company
PHY is operating at 10Mb/s, or when TX_EN is deasserted." to "Assertion of the TX_ER signal shall not affect the transmission of data when a PHY is operating at 10Mb/s (with the exception of 10BASE-T1S and 10BASE-T1L), or when	Comment Type T Comment Status A Link Segme Trunk link sections and spur link sections are undefined. Link Segme Link Segme
TX_EN is deasserted"	SuggestedRemedy
	leasest the following conteness hefers the conteness on line Od. IIA townly link conting you do
Note: see comment 331	Insert the following sentences before the sentence on line 21, "A trunk link section provide: the feed to the the first PD or PSE in a 10BASE-T1L link segment. A spur link section feeds subsequent PDs or PSEs."
X 148 SC Figure 148-4 P 166 L 11 # 483	the feed to the the first PD or PSE in a 10BASE-T1L link segment. A spur link section feeds subsequent PDs or PSEs." Response Response Status C
C/ 148 SC Figure 148-4 P 166 L 11 # 483 Brandt, David Rockwell Automation Comment Type T Comment Status A State Diagram	the feed to the the first PD or PSE in a 10BASE-T1L link segment. A spur link section feeds subsequent PDs or PSEs." <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Response</i> <i>Re</i>
C/ 148 SC Figure 148-4 P 166 L 11 # 483 Brandt, David Rockwell Automation Rockwell Automation # 5000000000000000000000000000000000000	the feed to the the first PD or PSE in a 10BASE-T1L link segment. A spur link section feeds subsequent PDs or PSEs." <i>Response Response Status C</i> ACCEPT IN PRINCIPLE. Insert the following sentences before the sentence on line 21, The trunk link section provides power to the single pair field switches. The trunk link section can also
C/ 148 SC Figure 148-4 P 166 L 11 # 483 Brandt, David Rockwell Automation Rockwell Automation Comment Type T Comment Status A State Diagram The exist conditions from WAIT_TO are ambiguous. SuggestedRemedy Change to: State Diagram	the feed to the the first PD or PSE in a 10BASE-T1L link segment. A spur link section feeds subsequent PDs or PSEs." <i>Response Response Status C</i> ACCEPT IN PRINCIPLE. Insert the following sentences before the sentence on line 21, The trunk link section provides power to the single pair field switches. The trunk link section can also interconnect field switches. The spur link sections provides power to the PDs. Align figure with text definition above. For media change all instances of single-pair to
C/ 148 SC Figure 148-4 P 166 L 11 # 483 Brandt, David Rockwell Automation Comment Type T Comment Status A State Diagram The exist conditions from WAIT_TO are ambiguous. State Diagram State Diagram SuggestedRemedy Change to: curlD = local_nodeID * packetPending= FALSE * plca_eri = FALSE	the feed to the the first PD or PSE in a 10BASE-T1L link segment. A spur link section feeds subsequent PDs or PSEs." <i>Response Response Status C</i> ACCEPT IN PRINCIPLE. Insert the following sentences before the sentence on line 21, The trunk link section provides power to the single pair field switches. The trunk link section can also interconnect field switches. The spur link sections provides power to the PDs. Align figure with text definition above. For media change all instances of single-pair to "single balanced pair".
C/ 148 SC Figure 148-4 P 166 L 11 # 483 Brandt, David Rockwell Automation Rockwell Automation Comment Type T Comment Status A State Diagram The exist conditions from WAIT_TO are ambiguous. SuggestedRemedy Change to: State Diagram	the feed to the the first PD or PSE in a 10BASE-T1L link segment. A spur link section feeds subsequent PDs or PSEs." <i>Response Response Status C</i> ACCEPT IN PRINCIPLE. Insert the following sentences before the sentence on line 21, The trunk link section provides power to the single pair field switches. The trunk link section can also interconnect field switches. The spur link sections provides power to the PDs. Align figure with text definition above. For media change all instances of single-pair to
Cl 148 SC Figure 148-4 P 166 L 11 # 483 Brandt, David Rockwell Automation State Diagram Comment Type T Comment Status A State Diagram The exist conditions from WAIT_TO are ambiguous. SuggestedRemedy State Diagram Change to: curlD = local_nodeID * packetPending= FALSE * plca_eri = FALSE curlD = local_nodeID * packetPending = TRUE * plca_eri = FALSE TO_TIMER done * curlD != local_nodeID * plca_eri = FALSE	the feed to the the first PD or PSE in a 10BASE-T1L link segment. A spur link section feeds subsequent PDs or PSEs." Response Status C ACCEPT IN PRINCIPLE. Insert the following sentences before the sentence on line 21, The trunk link section provides power to the single pair field switches. The trunk link section can also interconnect field switches. The spur link sections provides power to the PDs. Align figure with text definition above. For media change all instances of single-pair to "single balanced pair". Cl 200 SC 200A.1.1.2 P 200 L 30 # [307]
C/ 148 SC Figure 148-4 P 166 L 11 # 483 Brandt, David Rockwell Automation State Diagram Comment Type T Comment Status A State Diagram The exist conditions from WAIT_TO are ambiguous. SuggestedRemedy State Diagram Change to: CurlD = local_nodeID * packetPending= FALSE * plca_eri = FALSE curlD = local_nodeID * packetPending = TRUE * plca_eri = FALSE TO_TIMER done * curlD != local_nodeID * plca_eri = FALSE TO_TIMER done * curlD != local_nodeID * plca_eri = FALSE Response Response Status C	the feed to the the first PD or PSE in a 10BASE-T1L link segment. A spur link section feeds subsequent PDs or PSEs." Response Response Status C ACCEPT IN PRINCIPLE. Insert the following sentences before the sentence on line 21, The trunk link section provides power to the single pair field switches. The trunk link section can also interconnect field switches. The spur link sections provides power to the PDs. Align figure with text definition above. For media change all instances of single-pair to "single balanced pair". P 200 L 30 # 307 Maguire, Valerie The Siemon Company The Siemon Company Link Segme

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 200 SC 200A.1.1.2 Page 80 of 81 5/22/2018 5:27:23 PM

I Management Parameters for 10 Mb/s Operation ov	ver Single Balanced Twisted-pair Cabling and Associat
C/ 200 SC 200A.1.1.2 P 200 L 30 # 306 Maguire, Valerie The Siemon Company The Siemon Company <t< th=""><th>C/ 200 SC 200A.1.1.2 P 200 L 3 Maguire, Valerie The Siemon Company</th></t<>	C/ 200 SC 200A.1.1.2 P 200 L 3 Maguire, Valerie The Siemon Company
Comment Type T Comment Status A Link Segment Clarify if this is a spur link section or a trunk link section. Align media references. Comment Status Comment S	Comment Type T Comment Status D This is just an example, but it would be nice to reference Pol
SuggestedRemedy Replace, "Powered Single-pair link section" with "Powered single balanced pair spur link section" in Figure 200A-2. Response Response Status C	SuggestedRemedy Replace "dc power" with "Type E PoDL" in four locations in F power" becomes "XX V Type 3 PoDL" - Commenter's note: r voltage).
ACCEPT IN PRINCIPLE. Powered single balanced pair Trunk link section.	Proposed Response Response Status W PROPOSED REJECT.
Cl 200 SC 200A.1.1.2 P 200 L 30 # 309 Maguire, Valerie The Siemon Company The Siemon Company # 309	DCR characteristics and class power requirements have not Group. See editors notes under 200A.1.1.2.1 Powered trunk cable D 200A.1.1.2.2 Powered trunk cable class power requirements
Comment Type T Comment Status D Link Segment Clarify what gage conductors and length are used for this section. SuggestedRemedy SuggestedRemedy SuggestedRemedy	Cl 200 SC 200A.1.1.2 P 200 L 1 Maguire, Valerie The Siemon Company
Replace, "(e.g., 24V dc power) with "(e.g., XX Type E PoDL, 14 - 18 AWG single balanced pair cable, up to 1000m length). Commenter's note: Replace "XX" with correct voltage.	Comment Type E Comment Status A Align media references with revised objectives.
Proposed Response Response Status W PROPOSED REJECT.	SuggestedRemedy Replace 4 occurances of the phrase "Single-pair" in Figure 2 pair" (Commenter's note: single should not be capitalized).
200A.1.1.2 Powered trunk cable topologies DCR characteristics and class power requirements have not been agreed to by the Task	Response Response Status C

Group.

See editors notes under 200A.1.1.2.1 Powered trunk cable DCR characteristics and 200A.1.1.2.2 Powered trunk cable class power requirements.

Valerie The Siemon Company Type T Comment Status D is just an example, but it would be nice to reference PoDL power. dRemedv ace "dc power" with "Type E PoDL" in four locations in Figure 200A-2 (e.g., "48V dc er" becomes "XX V Type 3 PoDL" - Commenter's note: replace XX with correct ge).

characteristics and class power requirements have not been agreed to by the Task ID.

L 30

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Link Seament

editors notes under 200A.1.1.2.1 Powered trunk cable DCR characteristics and .1.1.2.2 Powered trunk cable class power requirements.

C/ 200	SC	200A.1.1.2	P 20	D L'	185	# 304	
Maguire, Valerie The Siemon Company				у			
Comment T	уре	Е	Comment Status	A		Link Segment	
Align media references with revised objectives.							

dRemedy

ace 4 occurances of the phrase "Single-pair" in Figure 200A-2 with "single balanced (Commenter's note: single should not be capitalized).

ACCEPT IN PRINCIPLE.

Resolve with comment#305

C/ 200 SC 200A.1.1.2