

CEA Standard

Power Line/ Radio Frequency
Symbol-Encoding Sublayer

ANSI/CEA-600.38

November 1997



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**CEA-600.38 (Formerly Titled EIA-600.38) Power Line/Radio
Frequency Symbol Encoding Sublayer**

This document is the CEBus Power Line/Radio Frequency Symbol Encoding Sublayer part of EIA-600. This document handles the spread spectrum Physical Layer and CRC error detection. Original release 11-15-91.

EIA-600.38 Power Line/Radio Frequency Symbol Encoding Sublayer

CONTENTS

1. Introduction.....	1
2. Functional Description.....	2
2.1 MAC Sublayer/Physical Layer Interface.....	2
2.2 Symbol Transmission.....	4
2.3 Symbol Reception.....	5
2.4 Error Detection.....	5
2.5 Operation When the Channel is Idle.....	6
3. Medium Access Control Sublayer/PL/RF SE Sublayer Interface Service Specification.....	7
3.1 Overview of Primitives.....	7
3.2 Detailed Specification of Primitives.....	7
3.2.1 PH_CC_DATA.request.....	7
3.2.2 PH_CC_DATA.indication.....	8
3.2.3 PH_CC_DATA.confirm.....	8
3.2.4 PH_CC_STATUS.indication.....	9
4. Layer System Management/PL/RF SE Sublayer Interface Service Specification.....	10
4.1 Overview of Primitives.....	11
4.2 Detailed Specification of Primitives.....	11
4.2.1 PH_INITIALIZE_PROTOCOL.request.....	11
4.2.2 PH_INITIALIZE_PROTOCOL.confirm.....	12
4.2.3 PH_SET_VALUE.request.....	12
4.2.4 PH_SET_VALUE.confirm.....	13
4.2.5 PH_READ_VALUE.request.....	13
4.2.6 PH_READ_VALUE.confirm.....	13
4.2.7 PH_EVENT.indication.....	14
4.2.8 LSM_EVENT.indication.....	14
4.2.9 PH_FAILURE_REPORT.indication.....	15
5. Description of PL/RF SE Sublayer State Machine Procedures.....	16
5.1 State Description.....	17
5.1.1 IDLE	17
5.1.2 RCV_PRE_SYM.....	17
5.1.3 RCV_SYM.....	18
5.1.4 RCV_CRC.....	18
5.1.5 XMIT_PRE_SYM.....	18
5.1.6 XMIT_SYM.....	18
5.1.7 XMIT_CRC.....	18
5.1.8 RESET_WAIT.....	19
5.2 Event Description.....	19
5.2.1 $2 < \text{UST_COUNT} \leq 8$	19
5.2.2 $93 < \text{SYM_TIMER} < 107$	19
5.2.3 $\text{CRC}(2^{\text{CRC_COUNT}}) = 0$	19
5.2.4 $\text{CRC}(2^{\text{CRC_COUNT}}) = 1$	19

5.2.5 CRC_COUNT<0	19
5.2.6 CRC_COUNT=>0	19
5.2.7 CRC_REGISTER<>0	19
5.2.8 CRC_REGISTER=0	19
5.2.9 LAST_RCV=FIRST_@	20
5.2.10 LAST_RCV=INF	20
5.2.11 LAST_RCV=SECOND_@	20
5.2.12 LAST_RCV=SUP	20
5.2.13 LAST_XMIT=INF	20
5.2.14 LAST_XMIT=@1	20
5.2.15 LAST_XMIT=@2	20
5.2.16 LAST_XMIT=SUP	20
5.2.17 M_STATE.INDICATION(FIRST_@)	20
5.2.18 M_STATE.INDICATION(SECOND_@)	21
5.2.19 M_STATE.INDICATION(SUP)	21
5.2.20 M_STATE_INFERIOR	21
5.2.21 M_STATE_INFERIOR≥2	21
5.2.22 MEDIUM_FAILURE	21
5.2.23 MEDIUM_RESET	21
5.2.24 PH_CC_DATA.REQUEST(EOF)	21
5.2.25 PH_CC_DATA.REQUEST(not(EOF))	21
5.2.26 PH_CC_DATA.REQUEST(SYM)	21
5.2.27 PH_FAILURE	22
5.2.28 PH_INITIALIZE_PROTOCOL.REQUEST	22
5.2.29 SYM=EOF	22
5.2.30 SYM=EOP	22
5.2.31 SYM_TIMER=>107	22
5.2.32 SYM_TIMER_EXP	22
5.2.33 UST_COUNT=1	22
5.2.34 UST_COUNT=4	22
5.2.35 UST_COUNT>1	22
5.3 Action Description	22
5.3.1 CRC_COUNT:=15	22
5.3.2 CRC_COUNT:=CRC_COUNT-1	23
5.3.3 FIRST_@:=RECEIVED_@	23
5.3.4 LAST_RCV:=FIRST_@	23
5.3.5 LAST_RCV:=INF	23
5.3.6 LAST_RCV:=SECOND_@	23
5.3.7 LAST_RCV:=SUP	23
5.3.8 LAST_XMIT:=INF	23
5.3.9 LAST_XMIT:=@1	23
5.3.10 LAST_XMIT:=@2	23
5.3.11 LAST_XMIT:=SUP	23
5.3.12 M_STATE.REQUEST(@1)	23
5.3.13 PH_EVENT.INDICATION(MEDIUM_RESET)	24
5.3.14 M_STATE.REQUEST(@2)	24
5.3.15 PH_CC_DATA.CONFIRM(FAIL_COLL)	24
5.3.16 PH_CC_DATA.CONFIRM(FAIL_OTHER)	24
5.3.17 PH_CC_DATA.CONFIRM(SUCCESS)	24
5.3.18 PH_CC_DATA.INDICATION(EOP)	24
5.3.19 PH_CC_DATA.INDICATION(PRE_EOF)	24
5.3.20 PH_CC_DATA.INDICATION(UST_COUNT)	25
5.3.21 PH_CC_STATUS.INDICATION(BAD_FRAME)	25

5.3.22 PH_CC_STATUS.INDICATION(CH_ACTIVE)	25
5.3.23 PH_CC_STATUS.INDICATION(CH_QUIET)	25
5.3.24 PH_CC_STATUS.INDICATION(GOOD_FRAME)	25
5.3.25 PH_EVENT.INDICATION(MEDIUM_RESET)	25
5.3.26 PH_FAILURE_REPORT.INDICATION(MEDIUM_FAIL).....	25
5.3.27 PH_FAILURE_REPORT.INDICATION(PH_FAIL)	26
5.3.28 PH_INITIALIZE_PROTOCOL.CONFIRM(SUCCESS)	26
5.3.29 PH_RESET	26
5.3.30 SHIFT_0_TO_CRC	26
5.3.31 SHIFT_1_TO_CRC	26
5.3.32 START_SYM_TIMER(100)	26
5.3.33 START_SYM_TIMER(114)	26
5.3.34 START_SYM_TIMER(128)	26
5.3.35 UST_COUNT:=(SYM).....	27
5.3.36 UST_COUNT:=1	27
5.3.37 UST_COUNT:=8	27
5.3.38 UST_COUNT:=UST_COUNT+1	27
5.3.39 UST_COUNT:=UST_COUNT-1.....	27
5.4 Variable Description.	27
5.4.1 CRC_COUNT.....	27
5.4.2 CRC_REGISTER.....	27
5.4.3 LAST_RCV	27
5.4.4 LAST_XMIT	27
5.4.5 SYM 27	
5.4.6 SYM_TIMER.....	28
5.4.7 UST_COUNT	28
6. PL/RF SE Sublayer State Transition Tables.	28
6.1 IDLE State Transition Table.....	29
6.2 RCV_PRE_SYM State Transition Table	30
RCV_PRE_SYM State Transition Table (continued)	31
6.3 RCV_SYM State Transition Table	32
6.4 RCV_CRC State Transition Table	33
6.5 XMIT_PRE_SYM State Transition Table.....	34
XMIT_PRE_SYM State Transition Table (continued)	35
6.6 XMIT_SYM State Transition Table.....	36
XMIT_SYM State Transition Table (continued)	37
6.7 XMIT_CRC State Transition Table.....	38
6.8 RESET_WAIT State Transition Table.....	39
7. PL/RF SE Sublayer Revision Control.	40

EIA-600.38 Power Line/Radio Frequency Symbol Encoding Sublayer

1. Introduction

This document describes the portion of the Power Line or RF Physical Layer that interfaces to the Medium Access Control (MAC) Sublayer and to Layer System Management (LSM). This sublayer is called the Power Line/RF Symbol Encoding (PL/RF SE) Sublayer. The PL/RF SE Sublayer provides two primary functions:

- (1) Accepts symbol transmission requests (PH_CC_DATA.request service primitive) from the MAC Sublayer, converts the symbols into correct medium state change timing (spread spectrum waveforms), and produces requests (M_STATE.request) for state changes on the physical medium. This function is symbol encoding.
- (2) Accepts state change indications (M_STATE.indication service primitive) from the Control Channel Medium Dependent Physical (MDP) Sublayer, converts the time between state changes to symbols, and produces indications of symbol reception (PH_CC_DATA.indication) for the MAC Sublayer. This function is symbol decoding.

Figure 1-1 illustrates the lower part of the CEBus layered model with the section described by this document shaded. Shown to the left of each sublayer is the document number covering that sublayer. Between the sublayers are the service primitives that exchange information and interact with the internal state machines. Within each sublayer block is the basic unit of information handled by that sublayer. The bottom block represents the Control Channel MDP Sublayer.

The next section provides a functional description of the PL/RF SE Sublayer. Sections 3 and 4 detail the service primitives supported by this sublayer. Section 5 provides a prose description of the states, events, variables, and actions found in the PL/RF SE Sublayer state machine. Section 6 presents the state transition tables (state machine).