[Proposal directive: Add the following text to the 101.4.2.1 Overview Section:]

101.4.2.1 Overview

The downstream PMA transmit functional diagram is shown in Figure 100-6. The PMA supports four channels where each channel is a 190 MHz OFDM channel (3800 subcarriers). Each channel is comprised of the following processing functions: Time and Frequency Interleaver (Section 101.4.2.7), Pilot Insertion (Section 101.4.2.8), Inverse Discrete Fourier Transform (IDFT) (Section 101.4.2.9), and Cyclic Prefix and Windowing (Section 101.4.2.10). The outputs of each channel are digitally combined. All channels use the same Sampling Rate clock as per Table 101-9 and follow the same frame timing.

Channel 0 is always enabled. Channels 1, 2, and 3 are optionally configured for operation as per cable operator deployment requirements. When enabled, each channel is configured for placement in the downstream RF frequency band of the cable network (see Table 100-1). The encompassed spectrum of any channel does not overlap with that of any other channel. The tight time skew requirements (See Table 101-9) permit the edge subcarrier of one channel to be placed immediately adjacent to that of another channel without any guard band (excluded subcarriers).

The Symbol Mapper multiplexes PCS data over all active subcarriers in all channels that are enabled that are configured to carry data. See Section 101.4.2.6.

The PHY Link is processed by the Channel 0 IDFT and Cyclic Prefix and Windowing functions.

EDITORS NOTE (to be removed prior to publication): need to update Table 100-1 to specify number of Channels, etc. Also need to add number of downstream channels supported as a CNU reported capability. Also need to add CNU receiver maximum "group delay skew" processing requirement for operating with multiple channels, or equivalent system requirement.

[Proposal directive: Add entry to Table 101-9 for maximum time skew:]

Inter-channel time skew: maximum transmission time skew between any two channels.	156.25 ns

[Proposal directive: Add new subsection:]

101.4.2.11 Channel Requirements

Table 101-x enumerates multiple channel operational requirements.

Item	Requirement
Channel 0 configuration	Channel 0 shall always be enabled. Channel 0 processes subcarriers for data as well as the PHY Link.
Channel 1, 2, 3 configuration	Channels 1, 2, or 3 may be enabled or disabled for operation. Channels should be enabled in ascending order: e.g. enable Channel 1 before enabling Channel 2, enable Channel 2 before enabling Channel 3.
Channel frequency placement	A channel may be configured for operation in any portion of the downstream Frequency Band as per Table 100-1
Channel subcarrier indexing relation to RF frequency	Channel 0: 0 to 4095 Channel 1: 4096 to 8191 Channel 2: 8192 to 12287 Channel 3: 12288 to 16383
Channel subcarrier frequency ordering	RF frequency correlates to subcarrier index; i.e., the lower the subcarrier index, the lower the RF frequency.
Minimum Encompassed Spectrum	The minimum encompassed spectrum of any enabled channel is 22 MHz as per Table 100-1.
Encompassed Spectrum Overlap	The encompassed spectrum of any enabled channel shall not overlap with that of any other enabled channel.
Adjacent Channel Placement	The CLT transmitter shall permit placement of the edge subcarrier of a channel's encompassed spectrum immediately adjacent to the edge subcarrier of another channel's encompassed spectrum without any frequency guard band.

[Proposal directive: Editors to appropriately change all occurrences of "lane" and replace with "channel" in Section 101.4.2]

Update 1.4.127 for use of channel definition in EPoC Clauses.

1.4.127 channel: A band of frequencies dedicated to a certain service transmitted on the broadband medium. (See IEEE Std 802.3, Clause 11, Clause 100, Clause 101, and Clause 102.)