

1.0 Functional Description

The Control Module (CLM) is contained in the rear card cage of the Marquee projector. It provides embedded software, timing signals and many waveforms essential to the projector's operation. The module consists nominally of two boards: the Control Board and the Deflection Processor Board (DPB). The DPB is a daughterboard which is attached to the larger Control Board. An second daughterboard, the Stigmator Waveform Board (SWB), can also be installed. It is included on the Control Module in the Marquee 9000 projector.

The Control Board is functionally divided into three sections; the CPU, the Waveform Generator and the Character Generator. The CPU runs the system software and controls the other modules in the projector. It accepts user input from hand-held keypads and communicates with devices external to the projector using RS-232. The Waveform Generator creates convergence waveforms for the Convergence Amplifier (CVA) and horizontal rate dynamic focus waveforms for the Focus Module (FCM). The Character Generator outputs analog RGB video signals to the Video Input Module (VIM) for displaying on-screen menus and test patterns. It also outputs G2 control voltages to the High Voltage Power Supply (HVPS).

The DPB generates horizontal and vertical drive signals for the Horizontal Deflection Module (HDM) and Vertical Deflection Module (VDM), respectively. Additionally, it outputs numerous control signals to the HDM and FCM to define frequency bands and to control switching between those bands. The DPB also generates clocks and other timing signals for the Waveform Generator and the Character Generator.

Four block diagrams are included in this section. The first illustrates the major sections of the Control module and the signals that connect them together. The remaining three diagrams shows in block form the internal details of the CPU, Waveform Generator and Character Generator.

This document describes only the main Control Board. The DPB is fully described in specification document 00-151306-01P.