

Re: Certification of Prince Transmitter  
Model/PN: UN150/VB3117  
FCC ID: CB2VB3117  
CANADA: to be provided by IC

**Product Information**

The product for which the certification is pursued has been designed by:

Prince Corporation  
One Prince Center  
Holland, MI 49423  
Project Engineer: Bob Franklin

The product will be manufactured by:

Jabil Circuit Inc.  
1700 Atlantic Blvd.  
Auburn Hills, MI 48326  
Electronics Manufacturing Engineer: Carl Shearer

The product will be serviced by:

Automobile Manufacturers' Dealerships

and

Prince Corporation  
One Prince Center  
Holland, MI 49423

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**Homelink® / TravelNote™ Module Description of Operation**

The HomeLink® / TravelNote™ module consists of two basic sections. The TravelNote™ and the Homelink® section.

The TravelNote™ section provides the owner with a digital recorder of up to 3 minutes in. There are three switches on board for play, record, and delete, and three others which allow the user to select Homelink® operation.

The 'training' operation is performed by scanning the legal frequencies with a single conversion superheterodyne receiver, looking for valid garage door opener bit code formats. The Homelink® shall not train or transmit to carrier frequencies in the bands 240 MHz - 285 MHz, 322 MHz - 335 MHz, or 400 MHz - 410 MHz.

In addition to being frequency and data format adaptive the Homelink's® transmitter is also RF amplitude adaptive. A 5 bit (up to 32 settings) attenuator, which is controlled by a microcontroller algorithm, is calibrated at three specific duty factor settings at the FCC test site: 30%, 50% and 80%. Constants derived from the calibration sequence, which control the algorithm, are stored in the ROM of the microcontroller. During the training sequence, the duty factor of the incoming bit code format is evaluated by the microcontroller determining the greatest amount of on-time in a 100µs window. The attenuator is then computed by the microcontroller according to the calibrated algorithm; the algorithm will always round to the next higher attenuator setting (i.e. more attentions)

After the training sequence the frequency bit code format and attenuator setting is stored in non-volatile memory (NVM) and retrieved on subsequent power ups. A Phase Locked Loop' (PLL) is then programmed by the microcontroller to set the RF carrier frequency to that which was stored in the NVM. The attenuator is also programmed to what is stored in the NVM. The PLL voltage controlled oscillator (VCO) is then modulated with the appropriate bit code information from the NVM.

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