

# **TEST REPORT**

**ELETTRONIKA S. r. l. TXUP3500 TV TRANSMITTER**

## **TECHNICAL REPORT**

### **INTRODUCTION**

The following information is provided to support the technical performance of the ELETTRONIKA S. r. l. TXUP3500 TV Transmitter. The information is supplied for broadcast TV service according to applicable portions of FCC rules contained in Part 2, Part 73, and 74.

1. Power Output Measurements as indicated by FCC Rule Part 2.1046.
2. Frequency Measurements as identified by FCC Rule Part 2.1055.
3. Visual Frequency response measurements of the transmitter to be within the window specified by FCC Rule Part 74.750.
4. Occupied BW of aural signal specified by FCC Rule Part 2.1079.
5. Aural frequency response as identified by FCC Rule Part 73.687
6. Measurement of conducted harmonics and spurs +/- 3 MHz outside of channel as specified by FCC Rule Part 74.750 and Part 2 Rule 2.1051.
7. Measurement of cabinet radiation of spurs and harmonics as specified in FCC Rule 2.1053 and 2.1057.
8. Measurements of voltage and current to final amp stage as outlined in FCC Rule 2.1033.

Measurements were conducted at transmitter visual power output levels of 3500 watts peak of sync and 875 watts peak of sync and constitute the range of power for which type certification is sought. The corresponding aural power levels are 350 watts and 87 watts. Measurements were taken on a unit with visual carrier frequency of 567.25 MHz and an aural carrier frequency of 571.75 MHz.

All test equipment was calibrated prior to the use of the equipment by the supplier of the test equipment.

## RF POWER OUTPUT

The equipment was configured as below shown in Figure 1. The loss through the RF output cable, and attenuator was calibrated at the frequency of operation. In this case, the Bird 4391 wattmeter was inserted before the attenuator to permit power measurements to be made. The video generator was configured to produce a signal with 0 IRE video and sync. The audio generator and aural carrier were not energized. The visual portion of the transmitter was energized and the power was increased to the desired output power. The power was read on the Bird wattmeter. The TV demodulator and VM-700 were used to verify that sync compression was not causing distortion of the measurement. The aural carrier was energized and its output level was then raised to meet the precise 10 dB Visual/aural power ratio as observed on the spectrum analyzer.

## POWER OUTPUT

Bird Power Meter reading  
at high power= 2085 watts

Peak of sync power = 1.68 times  
average power reading with a black  
picture and "0" setup

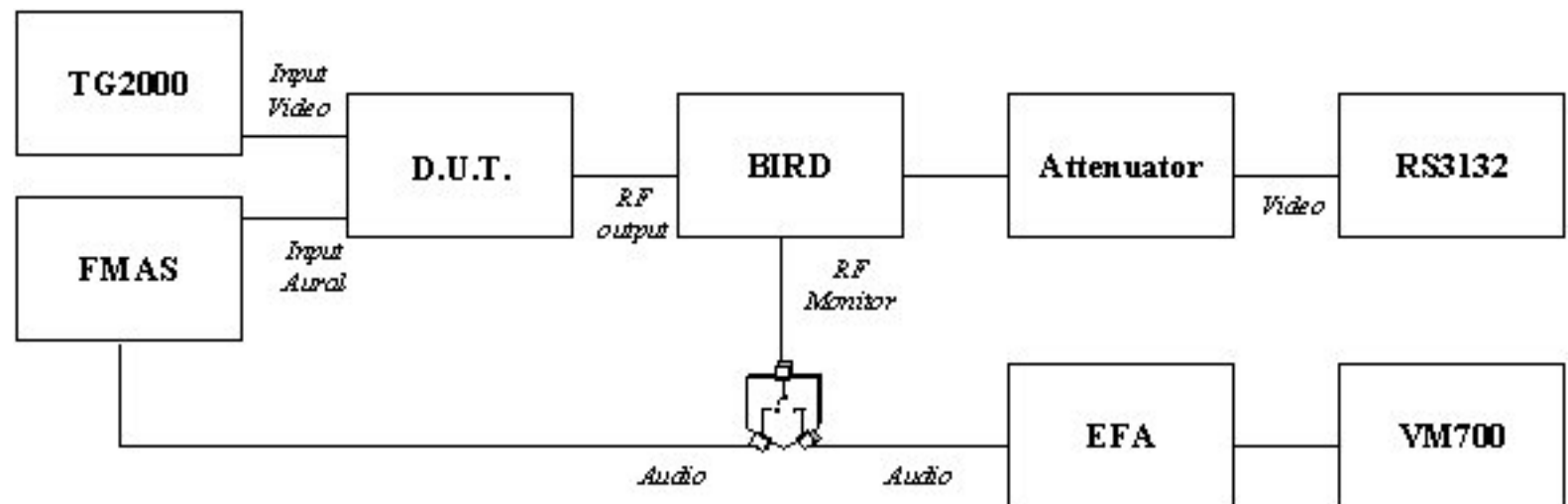
Peak of sync power =  $2085 \times 1.68$   
= 3503 watts

Bird Power Meter reading  
at low power= 521 watts

Peak of sync power = 1.68 times  
average power reading with a black  
picture and "0" setup

Peak of sync power =  $521 \times 1.68$   
= 875 watts

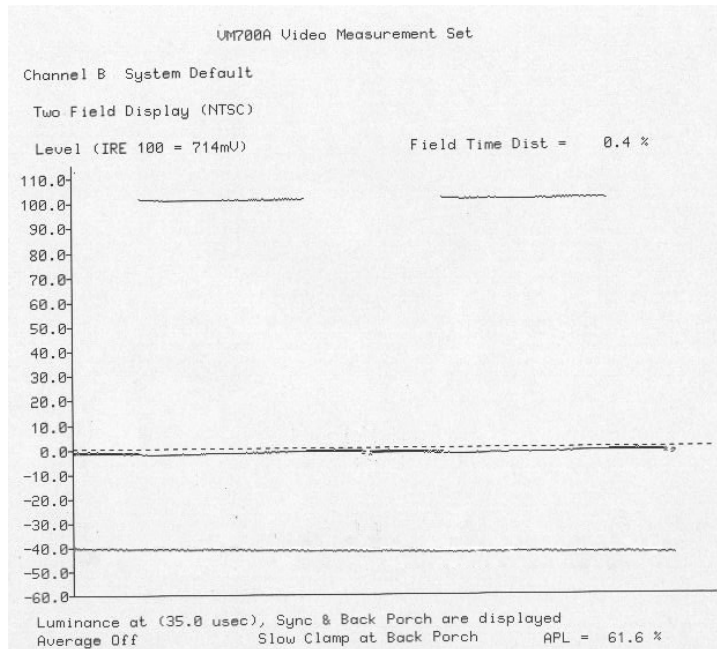
## TEST EQUIPMENT CONFIGURATION



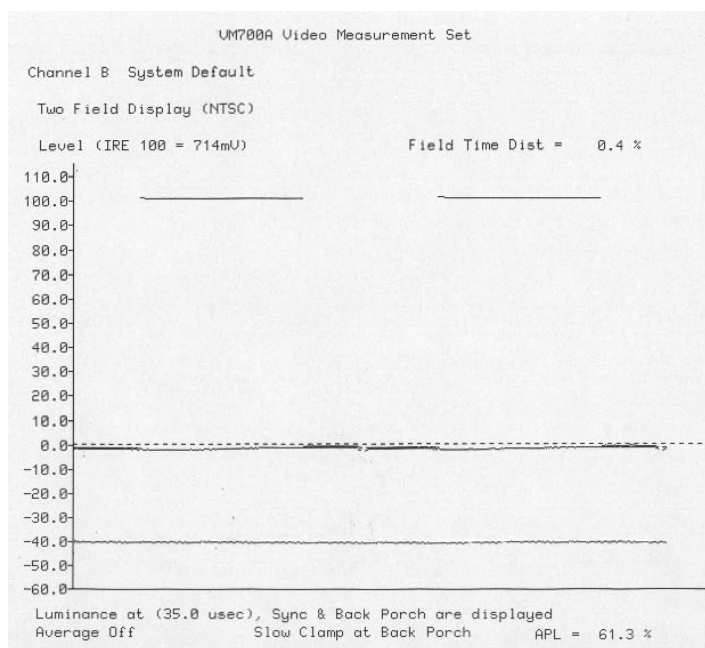
D.U.T. = Device Under Test

## TWO FIELDS SHOWING CORRECT MODULATION DEPTH FOR REFERENCE WHITE & SYNC LEVELS AT 3500 WATTS AND AT 875WATTS

Power Output = 3500 watts



Power Output = 875 watts



## **FREQUENCY STABILITY MEASUREMENTS**

Frequency stability is provided by the VEGA exciter. The VEGA exciter has been type certified. Since no new frequency determining components are involved with this transmitter, there is no need to re-establish the frequency stability performance. The frequency stability versus temperature and line voltage data can be examined using the records available on the FCC website. The pertinent type certification FCC ID is PHLVEGA.