Examiner Proof of Performance Signal Processor
Using Examiner with Sunrise AT2000 (formerly Avantron)

Introduction

The Sunrise AT2000R/RQ Spectrum Analyzer must have the CATVPAK option and software version 4.32 or higher installed to function with the Examiner System.

To complement the Sunrise Series 2000 Spectrum Analyzer, the Examiner Processor has a unique internal setup alignment. The leading edge of the blanking pulse is set to the standard 10 µsec after the leading edge of the sync pulse. The trailing edge of the blanking pulse is set to 56 µsec after the leading edge of the sync pulse. The blanking pulse is 46 µsec wide. The minimum usable pulse width is 43 µsec. The width of 46 µsec was chosen for reliability and to allow for alignment errors. The original width of the blanking pulse needed for the HP 8591C is 80 µsec. The narrower pulse width usable with the Sunrise also reduces the buzz or crackling sound commonly heard from the TV receiver on the test channel during the CTB test.

Notes:

- ◊ The Sunrise Examiner setup is **not** compatible for use with the HP 8591C CATV Analyzer.
- ◊ The HP 8591C Examiner setup **is** compatible for use with the Sunrise AT2000. Although, the benefits of improved operation with certain set top converters and reduced artifacts in the audio will not be realized.

Examiner Processor Front Panel User Setup

Default setting:

- `Signal 1 Line  - 19`
- `Signal 1 Field - odd`
- `Signal 2 Line  - 19`
- `Signal 2 Field - odd`

Only one field of line 19 is blanked. The ‘odd’ setting in the Processor matches a ‘line 1’ setting in the Analyzer. An ‘even’ setting matches a ‘line 2’ setting.

If it is desirable to use a different line or field for testing, select the same line number and the same field settings for Signal 1 and Signal 2. The Analyzer parameters setup must match the Processor settings.

Refer to the Examiner User’s Guide for other front panel setup features and operation.

Measurements Procedure

Power ON analyzer
Connect signal source

1) Select Test Channel (Estimated Time to Complete - 15 seconds)

Press **FREQ**
Enter test channel frequency
Press **ENTER**

2) Set Input Attenuator (Estimated Time to Complete - 15 seconds)

Press **AMPL** (Check the level as this step may not be needed every time)
Adjust **ATT** for the test channel level to fall within the top 10 dB graticle of the display

3) In Band Flatness Measurement (Estimated Time to Complete - 45 seconds)

Press **MENU**
Select **IN-CHAN FREQ**
Press **ENTER**
If not measuring on line 19, field 1 (This step not be needed every time)
Press **LINE SELECT**
Enter **19**, press **ENTER**
Press **FIELD SELECT**
Enter **1**, press **ENTER**
Press **SEARCH MINMAX**

Note **IN-CHANNEL RESPONSE** measurement

4) HUM Measurement (Estimated Time to Complete - 20 seconds)

Press **MENU**
Select **HUM**
Press **ENTER**
Select **SIG. TYPE =>VIDEO** (This step not be needed every time)

Note **HUM (SIGNAL)** measurement

5) C/N, CSO, CTB Measurement (Estimated Time to Complete - 90 seconds)

Press **MENU**
Select **C/N, CSO, CTB**
Press **ENTER**
Select **=>COMBINED**
Select **=>GATED**
Press **SET MEAS. PARAMETERS** (This step not be needed every time)

Set items on display as follows:

```
[GATED]

Field Select (1 .. 2) ........................ :1
Line Select  (7 .. 35) ....................... :19

[C/N]

IN-CH, CH EDGE AND GATED (-9.99 .. 9.99 MHz) . :2.00
SYSTEM BANDWIDTH CORRECTION (4.00..6.00 MHz) . :4.00

[CSO]

LOWER 1 (-9.99 .. 0.00 MHz)  .  :-1.25 Measure : OFF
LOWER 2 (-9.99 .. 0.00 MHz)  .  :-0.75 Measure : ON
UPPER 1 (0.00  .. 9.99 MHz)  .  :0.75 Measure  : ON
UPPER 2 (0.00  .. 9.99 MHz)  .  :1.25 Measure  : ON

[CTB]

IN-CH And GATED (-9.99 .. 9.99 MHz) .......... :0.00
```

Press **SAVE SETUP**

Press **MEASURE**

Note **C/N, CSO, CTB** measurements

6) Repeat Steps for Next Test Channel