

# Advanced • TV™ Series



## AT7001 & AT6001 Options

### LINEAR AT7001 / AT6001 Exciter Options

#### Features

“One Click” correcting, easy to use exciter system

- One-click linear and non-linear correction via simple and easy to use software
- Non-linear improvement up to 16dB
- Linear improvement up to 10dB
- 4 x 40 display for easy man-machine interface
- PLL synthesized oscillator from a 10 MHz OCXO
- Optional external 10 MHz reference (GPS)
- Front panel error indication, current and past alarms
- Bench testable with just a PC. No additional test equipment needed.
- 0-100mW output variable from front panel or via remote control (Ethernet)
- Any channel 7-13 and 14 - 69 adjustable from the front panel
- Lightweight < 18 lbs
- 2 RU

#### Options

##### **Option 2: Test and Monitoring**

28 measurements – 14 before and 14 after filter including MER, Shoulder levels, Frequency response, Group delay, Power Spectrum, AM/AM, AM/PM, I/Q, I only, CCDF. All measurements accessible via easy to use software (see following page for more details)

##### **Option 3: Memory Error Correction (MEC)**

Improves Modulation Error Ratio (MER) in the dynamic non-linear time domain. Memory effects distortion is shown in the instantaneous AM/AM and AM/PM characteristics and is time dependent, hence different non-linearity or inter-modulation is generated at different times or frequencies. Memory error can occur in most power amplifiers and is due to thermal and electric effects on wideband signals. Typical improvement is up to an additional 8dB.

##### **Option 4: Crest Factor Reduction (CFR)**

Improves shoulder levels by manually adjusting the Peak to Average Power Ratio (PAPR). Can be seen using the CCDF measurement. Note there is a trade off between improved shoulders and the SNR/MER value. Typical shoulder level improvement can be up to 6dB.

### Option 5: Extended Group Delay

Most Mask filters include a group delay error of less than 1000nS. However when extreme filtering is employed, significant additional group delay correction is required. This option can provide up to 4000nS of group delay compensation.

### Option 6: External 10MHz reference input

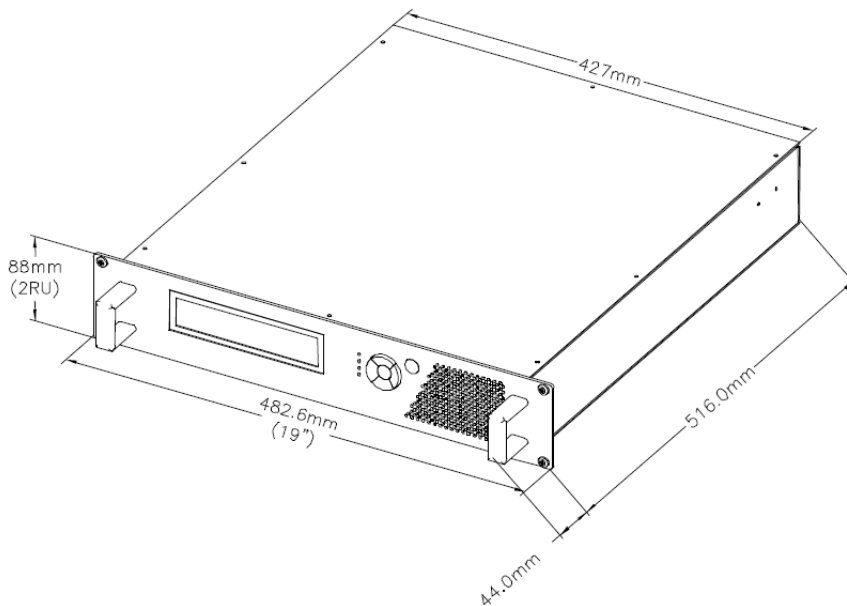
Although the exciter includes a very stable PLL synthesized oscillator from a 10 MHz Over Controlled Crystal Oscillator (OCXO) an external 10MHz reference can be used for greater stability. It is also required if MDTV option is selected.

### Option 7: MDTV (Mobile Digital TV) compatible

Option includes necessary software and firmware upgrades to be make the exciter compatible with current MDTV standard. MDTV multiplexer, Signaling Generator and Encoders are additional and not included with this option. All the requirements laid out in the ATSC Mobile DTV A/153 standard are met.

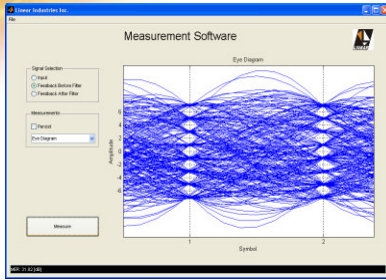
### Option 8: DTS (Distributed Transmission System)

Option includes the necessary software and firmware upgrades to make the exciter compatible with the ATSC A/110 DTx and ATSC RP A/111 standards.

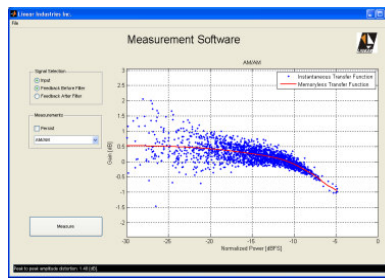


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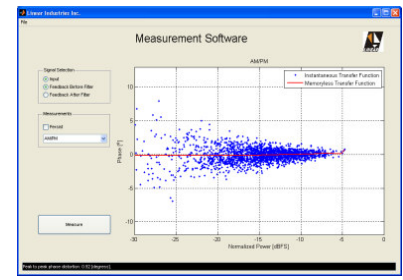
# Option 2: Test and Monitoring



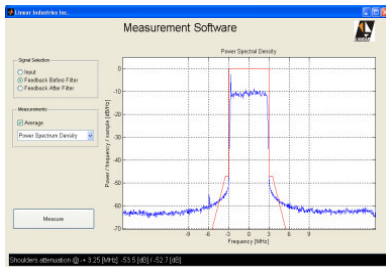
**EYE DIAGRAM**



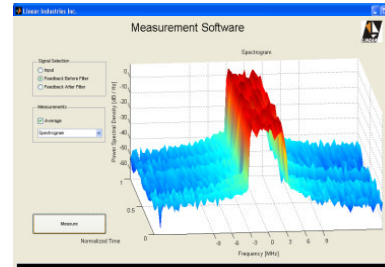
**AM / AM**



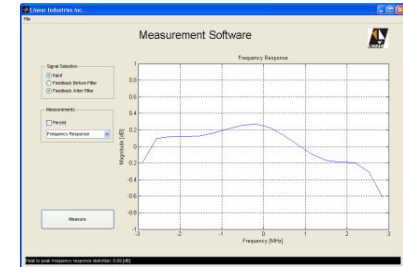
**AM / PM**



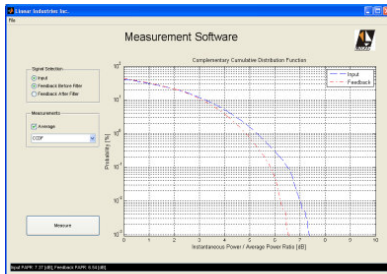
**POWER SPECTRUM DENSITY**



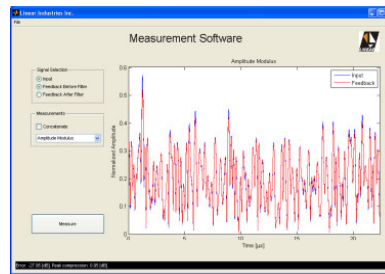
**SPECTROGRAM**



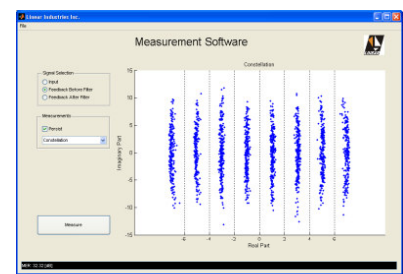
**FREQUENCY RESPONSE**



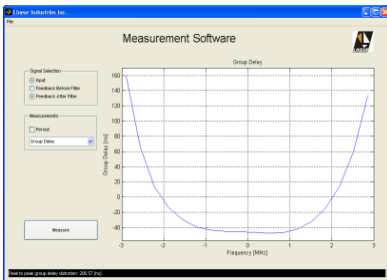
**CCDF**



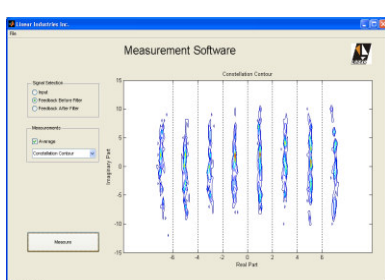
**AMPLITUDE MODULATION**



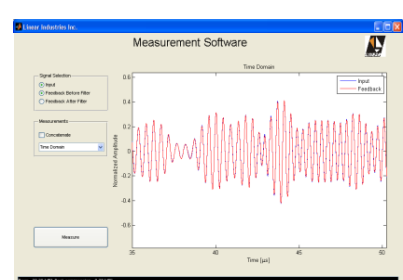
**CONSTELLATION**



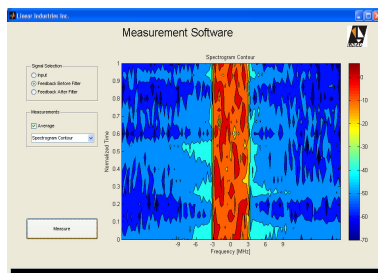
**GROUP DELAY**



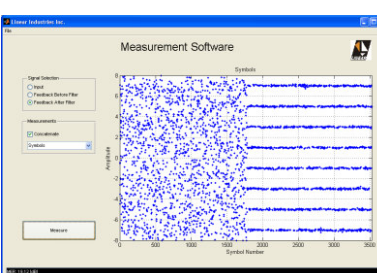
**CONSTELLATION CONTOUR**



**TIME DOMAIN**



**SPECTROGRAM**



**SYMBOLS**



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