

## Technical Service Bulletin 040824

### List of Recommended ATSC Test Equipment

This bulletin contains a list of recommended test equipment for the proper maintenance of an ATSC television transmission plant.

<b>Equipment Type</b>	<b>Purpose</b>
Vector Signal Analyzer <i>(HP89441 or equivalent)</i> <i>(Recommended)</i>	Measurement of frequency response, error vector magnitude (SNR), and pilot frequency.
8-VSB Measurement Set <i>(Tektronix RFA300 or equivalent)</i> <i>(optional)</i>	Measurement of frequency response (on channel only), error vector magnitude (SNR). No pilot frequency measurement capabilities
SCOUT or Comark View/SCOUT II Software <i>(optional)</i>	Measurement of frequency response (on channel only) and error vector magnitude (SNR).
Spectrum Analyzer <i>(Agilent E4402B or equivalent)</i>	Measurement of frequency response.
RMS Average Power Meter <i>(Agilent 8481A or equivalent)</i>	Measurement of RF average power level.
Frequency Counter <i>(Hewlett Packard 5385A or equivalent)</i>	Verification of 10 MHz GPS source and/or exciter LO frequency.
MPEG Stream Analyzer <i>(Thomson Mercury, Granite, or equivalent)</i>	Measurement of PCR jitter. Verification of MPEG/ATSC compliance in transport stream.
Professional 8-VSB Receiver / Decoder <i>(K Tech DVM-100 or equivalent)</i>	Reception and Decoding of 8VSB and MPEG signals for final quality verification.
Consumer HDTV Set-Top Box(es) <i>(variety of makes and models available)</i>	Verification of signal compliance and decoding on various brands of consumer gear used by home viewers.
HD Video Monitor <i>(Barco HDM-5049 or equivalent)</i>	Display of video signal from decoder.
AC-3 Audio Decoder <i>(Wohler ATSC3 or equivalent)</i>	Assessment of audio quality of transmitted signal.
Off air antenna	Provide off-air reception of transmitted signal.
1 GHz wideband oscilloscope <i>(Agilent Infinium 54833A or equivalent)</i>	Measurement of SMPTE/ASI waveform levels. Assessment of physical layer signal quality.

<b>Additional items</b>	<b>Purpose</b>
High Voltage Test Set (hipotter). ( <i>Spellman SL60N300 or equivalent</i> )	High voltage standoff testing in IOT based transmitters.
Digital multimeter ( <i>Fluke type 77 or equivalent</i> )	General purpose troubleshooting tool.
High voltage probe ( <i>Tektronix 80K40 or equivalent</i> )	High voltage meter calibration in IOT based transmitters.
50A current measuring shunt ( <i>Crompton FN50-50 or equivalent</i> )	Current meter calibrations.
N-type directional coupler ( <i>Comark 700961-01 or equivalent</i> )	Low level RF monitoring.
Assortment of 50 ohm coaxial cables ( <i>RG-214, RG-223 or equivalent</i> )	Test and monitoring equipment interconnection.
Assortment of 75 ohm coaxial cables ( <i>RG-59 or equivalent</i> )	Test and monitoring equipment interconnection.
Assortment of type N and BNC attenuators.	General purpose troubleshooting tools.
Assortment of 75 ohm coaxial video terminations.	General purpose troubleshooting tools.
Assortment of coaxial adapters (including SMA, SMB, SMC, TNC to BNC adapters).	General purpose troubleshooting tools.
Clamp-on AC/DC ammeter ( <i>TPI 296 or equivalent</i> ) ( <i>optional</i> )	Current metering calibration.

At Comark, we are constantly striving to improve the satisfaction of both our new and existing customers. Please do not hesitate to contact Comark Customer Service with any questions you may have concerning the contents of this service bulletin.

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