DESCRIPTION

The Transponder/DME Test Set (PN. 7991200) permits simulation of the ground station and airborne environment on the bench.

- Crystal-controlled digital selection of distance and velocity.
- 0.01 mile digital ranging steps from -1 to 999.89 NM
- 10 KT velocity steps from 0 to 9990KTS.
- Echo on DME mode.
- Suppressor pulse output in XPDR and DME modes.
- Measures peak power and transmitter frequency.
- Crystal-controlled, leveled L Band generator.
- All present and future DME channels.
- Paired VOR (108.0 -139.95 MHz) or direct frequency (950-1225MHz) readout.
- Two-year limited warranty.
TRANSPONDER/DME TEST SET
PN. 7991200

SPECIFICATIONS:

TRANSPONDER
Interrogation Rate: Continuously variable from 50Hz to 5000Hz. Accuracy ± 5%.
Pulse Spacing: P2 and P3 variable ± 1us from nominal position. Accuracy = 0.05us
at 0, ±0.1us at ±1 or ± 1us.
Pulse Width: Continuously variable from 0.4us to 1.2us (all three pulses simultaneously). Accuracy = 0.05us.
Side Lobe Suppression: Amplitude adjustable from +1dB relative to P1.
Sync Pulses: Nominal Amplitude –15V;
To: Leads P1 by approximately 5us to permit viewing of entire interrogation train.
To: In phase with P2 to permit viewing of reply train.
Cal Mark Generator: Crystal-controlled 1.0us or 1.45us time marks. Accuracy = 0.01%.
Suppressor Pulse: 50us (=2us) pulse coincident with P1 of interrogation pulse train.
RF On/Off Ratio: 80dB minimum (85dB typical).
Percent Reply Meter: 0 to 100%. Accuracy ±2%.
Transmitter Frequency Check: Transmitter frequency is measured by heteradyne method through diode mixers using oscilloscope. Accuracy ±500kHz at1000MHz.
Transmitter RF Power: Measured by calibrated slide-back power meter. Power at any point of the reply pulse may be measured using oscilloscope. Accuracy 12% @ 2.5kW ±15% @ 60W.

DME
Squitter: Variable from average of 50Hz to 5000Hz.
Ident: Constant Ident tone or coded Ident signal. Tone frequency 1050Hz =1%.
Range: -1 to 999.89NM in 0.01 increments. Accuracy –0.025NM plus =0.005% of range.
Velocity: 0 to 9990 Knots in 10 Knot increments. Accuracy ±0.02%.
Percent Reply: Random percent reply selectable from 20% to 100%. Accuracy ±5%.
Tacan Signal: Simulated by Amplitude Modulation on all output pulses with 60Hz.
Supressor Pulse: Output rate is controlled by Squitter PRF control.
R-NAV Pulses: P1 at time of interrogation: P2 at time of reply, Pulse spacing at 0NM, 50 (+0.25)us in X-channel and 56 (+0.25)us in Y-channel. 7(+3)us pulse width. 15 (+3) V amplitude.
Output Pulse Spacing: 12 (+0.2)us X-channel, 30 (+0.2)us in Y-channel. Spacing adjustable in +0.5, =3, ±4, =5, ±6us (-0.2us) increments.
Echo Pulse: Pulse pair injected 30NM from time of interrogation, +0.5NM range accuracy. –10 to –1dB variable amplitude relative to reply pulse.
RF On/Off Ratio: 85dB minimum (95dB typical).

SIGNAL GENERATOR
Frequency Range: 950MHz to 1225MHz direct. DME frequencies paired with VOR frequencies from 108.00 to 117.95MHz and 133.30 to 135.95MHz.
Output Level: Continuously variable from 0 to –110dBm. Attenuator accuracy ±1.5dB, leveling ±1dB from –30 to –110dBm.

PHYSICAL CHARACTERISTICS
Power: 105 to 120VAC or 220 to 250VAC, 50 to 400Hz. Power Consumption is less than 100Watts.

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