LECTROSONICS TEST & ALIGNMENT PROCEDURE[1]

MODEL: UT700 Audio Board **REV: 17302** **DATE: 25 FEB 2004**
FIRMWARE VER: 1.0

Setup: Preamp gain pot (R16) to min. (CCW). 3.5VDC in measured at J4-3.

MEASUREMENT.	**TEST CONDITIONS**	**TYPICAL MEASUREMENT RESULT**
Input Voltage:		+3.5 Vdc measured at J4-3 (+/- 0.10)
Current Draw before programming:		MAX 70mA
Reference Voltages.	Measure DC voltage at:	U16 Pin 1 (C10) 1.8VDC (+/- 0.1) U15 Pin 6 (C28) -3.2VDC (+/- 0.2) J3 Pin2 +3.5VDC (+/- 0.2S)
Program Processor:	Program Microprocessor and apply label. (***FACTORY ONLY)***	
Current Draw after programming:		75mA (+/- 5ma)
9VDC TO J4-1.		
Power Up LED Test:	Power D.U.T. down and back up: Observe operation of LED's D5, D6 and D9 as follows: After approximately 1 second:	 All 3 LED's RED. D2 GREEN, D5 and D6 OFF
Noise Floor.	**Preamp gain pot to Max.** Measure noise level @ TP4. Measure noise level @ TP5. **Preamp gain pot to Min.** Measure noise level @ TP4. Measure noise level @ TP5.	Approx. – 74dBV (+/- 2.0) Approx. – 57dBV (+/- 2.0) Approx. – 80dBV (+/- 4.0) Approx. – 80dBV (+/- 4.0)
Reference Voltages.	Measure DC voltage at:	TP3 0.0VDC (+/- 0.001) TP4 1.525VDC (+/- 0.004) TP5 1.525VDC (+/- 0.004)
Limiter output test:	***1kHz , –27BV audio signal coupled into mic jack J1- 2 through a 33? F capacitor ("+" side of cap toward input).***	
-20 -10 LED test:	-27dBV 250Hz into DUT -17dBV 250Hz into DUT -8dBV 250Hz into DUT	D5 GREEN, D6 OFF D5 GREEN, D6 GREEN D5 RED, D6 GREEN
Frequency Response:	**Use 250Hz reference. Ratio Analyzer.** **Measured at TP4**	40Khz -5.1dbr (+/-0.5) 20Khz +0.6dBr (+/- 0.2) 10Khz +0.3dBr (+/- 0.2) 1Khz +0.1dBr (+/- 0.2 100Hz -0.4dBr (+/- 0.2)
Mic Gain Pot Test:	**-55dBV in at J1. Gain Pot R16 at Minimum. Ratio Audio Analyzer. Measure at TP4.** Mic Gain Pot to Mid and Measure Level Mic Gain Pot to Max and Measure Level	 Approx. 29 dBr (+/- 2.0) Approx. 35 dBr (+/- 3.0)

NOTE: ***Return Mic Gain Pot to Minimum after test.***

Set SW1 and SW2 to FF.

[1] Test condition changes are in **bold** type. Measurement results are typical and do not indicate 'specs' unless min., max., or a range is specified. Small deviations from these 'typical' values does not constitute malfunction. Measurement result values apply only if this procedure (including initial setup) is followed. Void where prohibited by law.

Setup: Connect RF board to audio board, apply 9 vdc to battery contacts. Measure RF output at J2, J4 (J4 is Gnd). Turn power switch S3 ON (up position).

MEASUREMENT.	**TEST CONDITIONS**	**TYPICAL MEASUREMENT RESULT**
Check current draw:		<110 ma
Check VCO control voltage:	**Audio Bd. S1, S2 (F,F)**	<3 vdc
	Audio Bd. S1, S2 (0, 0)	>1 vdc
Measure output power:		+17 dbm

To adjust output power: Install jumper from J7-1 to J7-7 on audio board, set S1 to "A" and adjust power with S2. After adjustment, remove jumper.

Set operating frequency: Operating freq. +/- 1.5 Khz

To adjust frequency: Install jumper from J7-1 to J7-7 on audio board, set S1 to "F" and adjust frequency with S2. After adjustment, remove jumper.

Carrier NULL: >25 db below lower sideband

To adjust carrier NULL: Install jumper from J7-1 to J7-7 on audio board, set S1 to "0" and adjust S2 for best NULL. Set S1 to "1" and adjust S2 for best NULL. Repeat S1 "0 and 1 adjustments until best NULL has been achieved. After adjustment, remove jumper.

This completes the alignment.