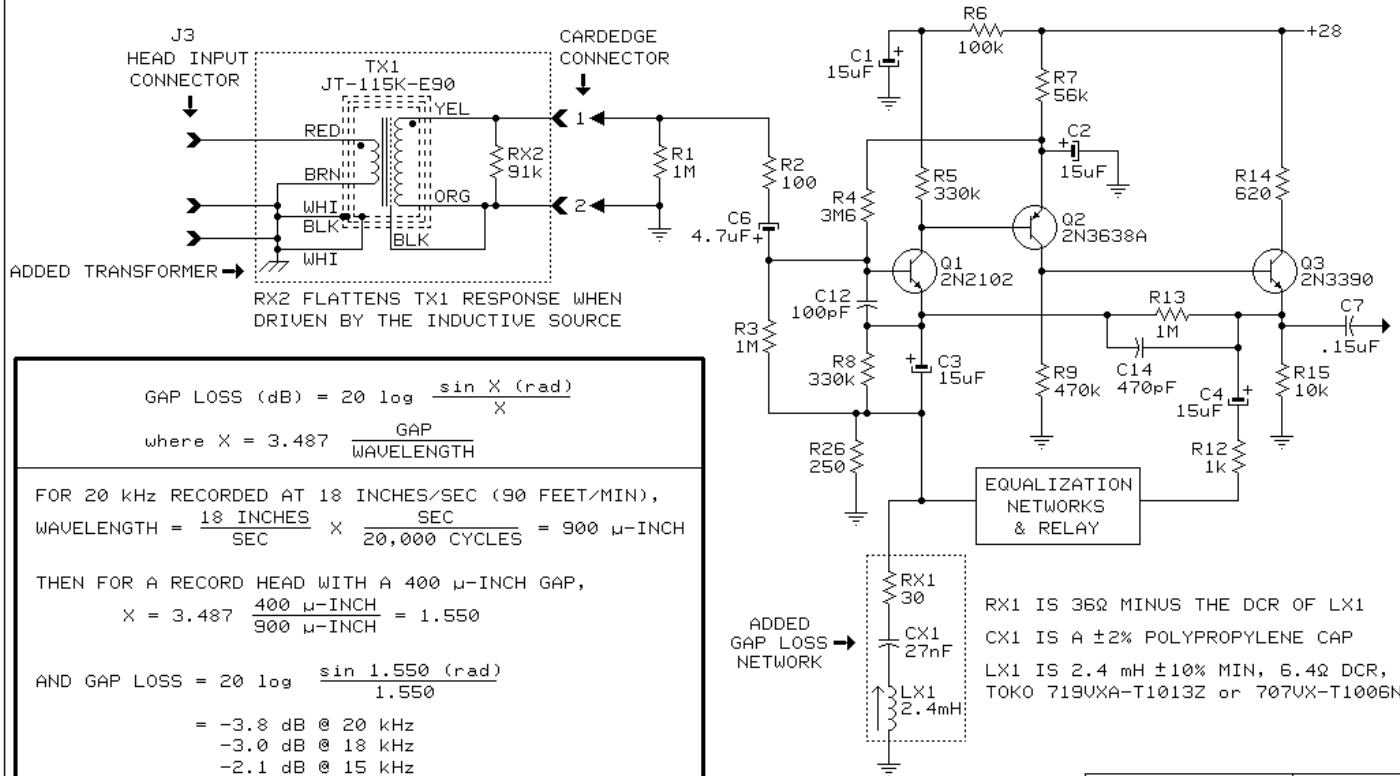


JT-115K-E90 "SYNC" CONVERSION FOR MAGNA-TECH 69C REPRO AMPLIFIER

THIS MODIFICATION WAS DESIGNED SPECIFICALLY FOR A TECCON #33100 HEAD OPERATING AT 18 INCHES/SEC
IT SHOULD WORK WELL FOR ANY OTHER RECORD HEAD HAVING ABOUT 8 mH INDUCTANCE AND A 400 MICRO-INCH GAP.



$$\text{GAP LOSS (dB)} = 20 \log \frac{\sin X \text{ (rad)}}{X}$$

where $X = 3.487 \frac{\text{GAP}}{\text{WAVELENGTH}}$

FOR 20 kHz RECORDED AT 18 INCHES/SEC (90 FEET/MIN),
 $\text{WAVELENGTH} = \frac{18 \text{ INCHES}}{\text{SEC}} \times \frac{\text{SEC}}{20,000 \text{ CYCLES}} = 900 \mu\text{-INCH}$

THEN FOR A RECORD HEAD WITH A 400 $\mu\text{-INCH}$ GAP,
 $X = 3.487 \frac{400 \mu\text{-INCH}}{900 \mu\text{-INCH}} = 1.550$

AND GAP LOSS = $20 \log \frac{\sin 1.550 \text{ (rad)}}{1.550}$

= -3.8 dB @ 20 kHz
 = -3.0 dB @ 18 kHz
 = -2.1 dB @ 15 kHz
 = -1.3 dB @ 12 kHz
 = -0.9 dB @ 10 kHz
 = -0.6 dB @ 8 kHz
 = -0.2 dB @ 5 kHz
 = -0.1 dB @ 3 kHz

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RX1 IS 36 Ω MINUS THE DCR OF LX1
 CX1 IS A $\pm 2\%$ POLYPROPYLENE CAP
 LX1 IS 2.4 mH $\pm 10\%$ MIN, 6.4 Ω DCR,
 TOKO 719VXA-T1013Z or 707VX-T1006N

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