



JFET Notes:
 - PCB Layed out for AM9709CN.
 U5 diodes are internally connected to U5 JFETs.
 These potentially clip the signal unless the connection is different than shown (unlikely).
 - The traced unit had discrete JFETs, Nat Semi P1087E, soldered to a socketed 14 pin DIP plug, pins 3,4,5,10,11,12 are shorted together with wire on the DIP plug.
 There are no diodes on the discrete JFET unit
 The discrete JFETs are connected with the same inverted drain/source connection as the AM9709CN.

Notes
 - Traced from photo's Nov 2002, circuit partially extrapolated from 2nd version. Thanks to Brian Foulds for the photo!
 - This is the first version of three known circuits, and the first model of five known models: Orange unit, Non-script PHASER, INTENSITY control, made in USA (1978), uses AM9709CN chip, or P1087E discrete JFETs on a 14-pin DIP plug.
 - Actual part designators are not known.
 - Caps ceramic unless specified otherwise
 - AM9709CN: P-channel, $V_p=2.2V$, $YFS=16000uS$ (params needs checking)
 P1087E: P-channel, $V_p=2.5V$, $YFS=12000uS$
 - Zener and Trimpot marked with ??? are unknown values but values shown are probably correct
 - Effect is positive ground
 * Brief Specs *
 Sweep Rate: 0.1Hz to 8Hz
 Sweep Range: 3 octaves
 Recycle: 0 to 80%
 Current 10mA

U1 to U4: TI brand, pin 8 to +V, pin 4 to 0V
 U5 AM9709CN Nat Semi, Monolithic JFET or, discrete JFET assembly see JFET notes

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Title Ross Phaser (1st Version, Orange Box)		
Size: A4	Date: 2-Dec-2002	Revision: DWG1.0
Drawn:	Dwg No.:	
File: E:\stuff\sch\Music2002\Effects\ross_phaser_orange1.Sch		
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