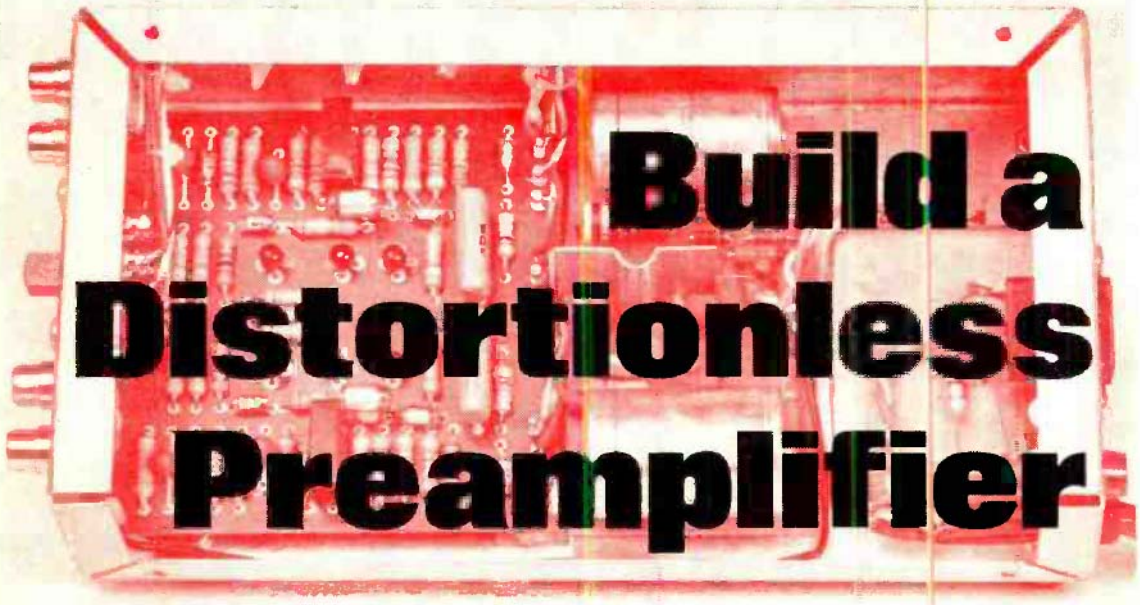

Build a Distortionless Preamplifier

PREPARING FOR FOUR CHANNEL?
YOU MAY WANT TO USE THIS PREAMP

BY JAMES BONGIORNO

THE ADVENT of four-channel stereo need not necessarily obsolete your present hi-fi system. Regardless of which four-channel system is finally agreed on as a standard, we feel that it's a safe bet that the conventional two-channel front end will remain and the four-channel decoding will take place after this stage. Therefore, it is more important than ever that the two-channel front end be of the best quality available. In essence, what you need is a noise-free, distortionless, nonoverloading amplifier that will follow the RIAA curve faithfully.

The phono preamplifier whose schematic is shown in Fig. 1 (only one channel is shown) comes as close to this "perfect" preamp as the state of the art permits. It is virtually impossible to overload this unit with

PARTS LIST
PREAMPLIFIER

Components common to both channels:
C10—68-μF, 3-volt 20% tantalum capacitor
D1,D2—1N914 diode
R18—43,000-ohm resistor
S1—Dpdt slide switch
Duplicate components in each channel:
C1,C4—22-μF, 60-volt, 20% tantalum capacitor
C2—56-pF, 5% polystyrene capacitor
C3—33-pF, 5% polystyrene capacitor
C5—0.47-μF, 100-volt, 10% Mylar capacitor
C6—330-pF, 5% polystyrene capacitor
C7—5600-pF, 2% polystyrene capacitor
C8—1650-pF, 2% polystyrene capacitor (1500 and 150 in parallel)
C9—47-pF, 5% polystyrene capacitor
J1,J2—Phono jack
Q1,Q3—2N4250 transistor
Q2—2N5089 transistor
R1,R14,R16—47,000-ohm, 2% resistor
R2,R3—390-ohm, 10% resistor
R4—1-megohm, 10% resistor
R5—62,000-ohm, 5% resistor
R6—Selected (see text)
R7—22,000-ohm, 5% resistor
R8,R17—470-ohm, 2% resistor
R9—681,000-ohm, 1% resistor
R10—3900-ohm, 5% resistor
R11—2700-ohm, 5% resistor
R12—1000-ohm, 10% resistor
R13—2.2-megohm, 1% resistor
R15—2200-ohm, 1% resistor
Note—For miscellaneous items and availability of parts see Parts List for Power Supply. (All resistors are ½ watt.)