



Card Code	Part No
BGWD	371427

Note 1. Although the integrator is designed for a -48v input, other sources are also used. When sources other than -48v are used, the line notation W is not used.
 2. The use of two series resistors, such as 1.2K and 1.2K, instead of 2.4K has no electrical significance. It is so used only to simplify packaging problems which result because of the land pattern layout on the card.

Current Mode W-to-P Integrators

The bcwd card has three integrators. Each accepts a W line input and develops an in-phase P line output. The purpose of this circuit is to develop current-mode output levels that are free of the noise and bounce generally found on cb or relay lines.

Circuit Description

When the input to A is open, the P line output is at -5.2v because of divider current through the 360 ohm, 2.4K coupling network, and the .1μfd capacitor is charged to -3.8v. Closure of the cb puts input A at -48v, and

the capacitor starts to charge to its -27v level as shown. Output F falls along with the capacitor charge until in the static state it reaches -7.8v because of approximately 8ma of current flow from -48v into the coupling network. The capacitor and the 2.7K resistor have a sufficiently long time constant so that relay bounce and line noise are filtered by the network and do not appear at output F. The 3.9K cb load resistor lowers the input impedance from approximately 5.4K to 2.3K. This low impedance draws 21ma of cb current, which is sufficient to breakdown an oxide film formation.