



# 201-ELEMENT DUAL LINEAR BAR GRAPH DISPLAY

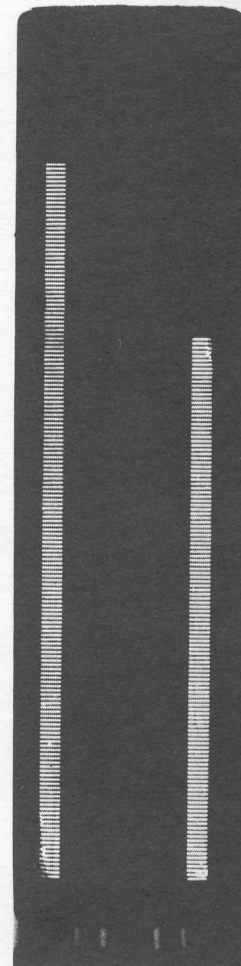
TYPE  
BG 12205-2

The SELF-SCAN bar graph is a flat panel indicator displaying two separate bar graphs, each containing 201 elements which includes reset for 1/2% resolution. The display segments are printed on 0.02-inch center spacing. At normal viewing distances, the glow blends into a continuous, but precisely controlled, bar length. This unique device is a member of a series of analog displays that should find use in such diverse applications as:

- Process Control
- Automobile Displays
- Panel Meters
- Depth Indicators
- Aircraft Displays
- Level Indicators
- Analog Indicators

The two Bar Graphs in the device have common cathodes but separate anodes, thereby allowing independent control of each bar. Employing Burroughs' internal scanning technique, the display needs only 8 active drivers to operate the two channels. The display elements of both bars are bussed together in a 5-phase arrangement. Operating in a scanning mode and refreshed at 70 Hz or greater, the panel presents a flicker-free display to the viewer.

Suitable logic external to the display device is used to generate a reset pulse and 200 cathode clock pulses in a 5-phase sequence. The display anodes are switched on at reset time and are switched off at the appropriate clock count, thus determining the height of the bar. Typically, this switching is accomplished by comparing an unknown signal with a reference voltage ramp. The ramp can be linear or non-linear (such as logarithmic). A block diagram of the required circuitry is shown in Figure 2. All connections are brought out to one of the narrow ends of the device. This device is provided with fixed leads compatible with IC sockets and suitable for reflow soldering. For more detailed information regarding the theory of operation, consult Application Note BG101.




## SUGGESTED OPERATING CONDITIONS

Parameter	Value
Anode Supply Voltage	250 Vdc
Keep Alive Anode Resistor	1 M $\Omega$
Typical Keep Alive Anode Current	100 $\mu$ A
Display Anode Resistor	20K $\Omega$
Typical Display Anode Current	5 mA
Cathode Off-Bias Voltage	72 Vdc
Display Anode Off-Bias Voltage	100 Vdc
Scan Time Per Cathode	70 $\mu$ Sec
Typical Display Anode Sustaining Voltage	150 Vdc
Applied Reset Pulse Width	70 $\mu$ Sec

## ENVIRONMENTAL DATA

Operating Altitude	0 to 70,000 ft.
Operating Temperature	0 $^{\circ}$ to +55 $^{\circ}$ C
Storage Temperature	-40 $^{\circ}$ to +85 $^{\circ}$ C
Relative Humidity (No Condensation)	85% Max.
Vibration	.018 inches DA 10 to 50 Hz 2g, 50 to 2000 Hz.
Shock	50g, 1/2 sinewave for 11 ms

Burroughs 

## DISPLAY CHARACTERISTICS

Segment Length	0.100 inches Nominal
Segment Width	0.011 inches, Nominal
Segment Spacing	0.020 inches, Nominal
Light Output	70 ft. L, Minimum (Note 1)
Color	Neon Orange (Note 2)
Viewing Angle	120°

## PIN CONNECTIONS

Pin	Connection
1	Channel No. 1 Anode
2	Phase 2 Cathode
3	Phase 1 Cathode
4	Reset Cathode
5	Keep-Alive Anode
6	Keep-Alive Cathode
7	Phase 4 Cathode
8	Phase 3 Cathode
9	Phase 5 Cathode
10	Channel No. 2 Anode

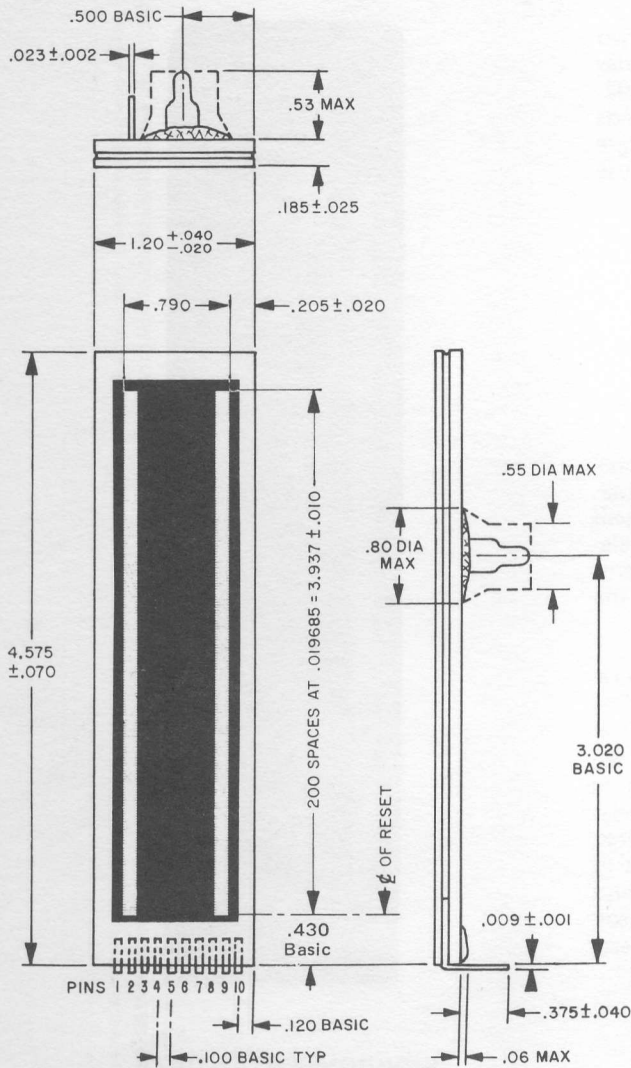


Figure 1. OUTLINE DRAWING

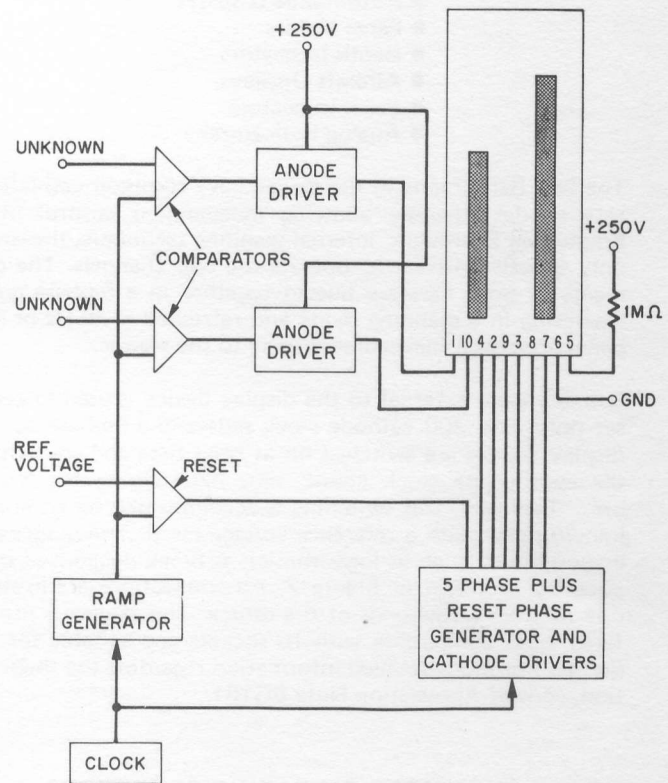


Figure 2. BLOCK DIAGRAM OF TYPICAL DRIVE CIRCUIT

## NOTES

- Luminance is measured using an ICI corrected Gamma Scientific Model 2020 Photometer mounted normal to an unfiltered panel operating under normal drive conditions. The light output is integrated over a typical glowing area. The specified value represents an area luminance rather than spot luminance.
- Color filters may be used to alter the apparent color of the display.

For further information write to Burroughs Corp., Electronic Components Division, P.O. Box 1226 Plainfield, New Jersey 07061; or call our special sales/applications assistance number (201) 757-5000 in New Jersey, or (714) 835-7335 in California. For overseas inquiries, write to Burroughs ECD International, Langwood House, High Street, Rickmansworth, Herts, England, Tel. (44) 9237-70545.

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