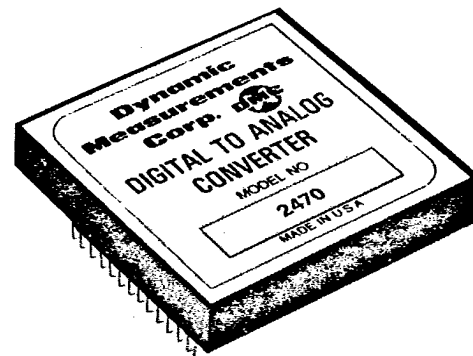




DIGITAL TO ANALOG CONVERTERS

SERIES 2470 14 BIT PRECISION HIGH SPEED D/A CONVERTERS

THESE MODULES' HIGH ACCURACY AND TIGHT SPECIFICATIONS PERMIT FULL UTILIZATION OF THEIR 14 BIT RESOLUTION, MAKING THEM PRACTICAL FOR DRIVING AND CONTROLLING VERY HIGH PERFORMANCE ANALOG DISPLAYS.

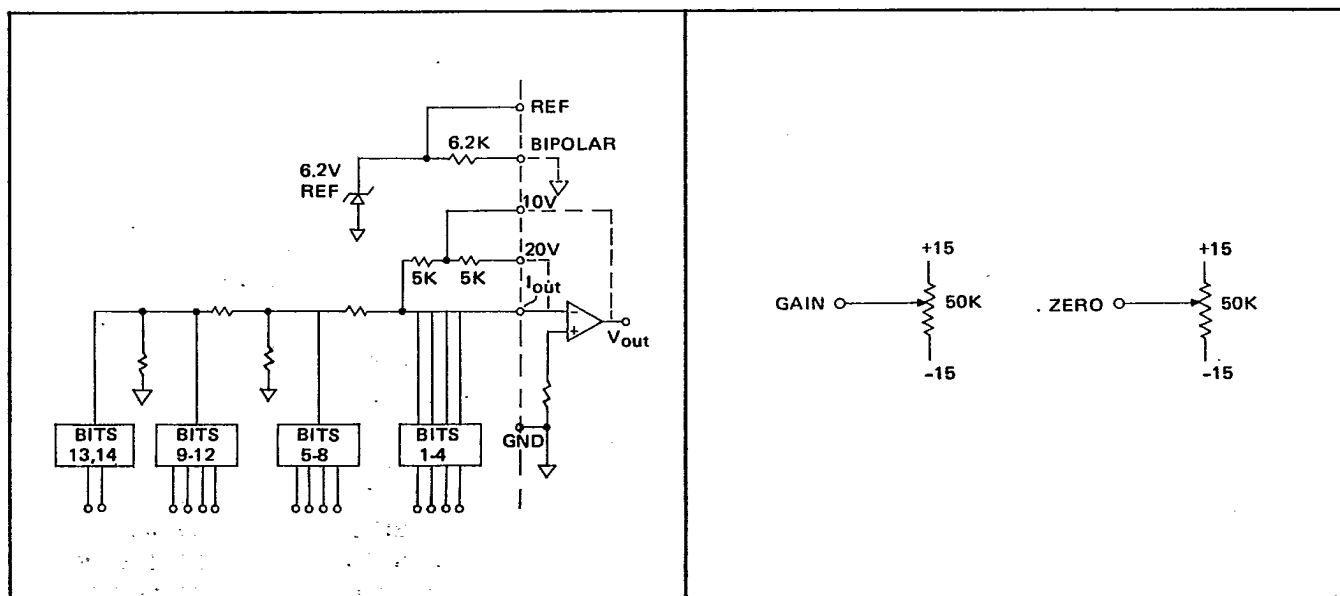


- FULL 14 BIT ACCURACY
- GAIN STABILITY TO 5 PPM/°C
- BIPOLAR ZERO DEVIATION UNDER 5 PPM/°C
- 700 NANOSECONDS (MAX) SETTLING TO 0.003%
- FIVE STANDARD PROGRAMMABLE VOLTAGE RANGES
- SMALL SIZE (2" x 2" x 0.4")

Models 2470 and 2471 are true 14 bit DAC's, featuring full 14 bit accuracy as well as resolution. Maximum linearity deviation over the full 0°C to 70°C operating temperature range is 3.0 ppm/°C max. (1.0 ppm/°C typ.)

This family utilizes a unique DMC high speed internal reference scheme to enhance both fast settling and tight TC performance. Settling time to 0.003% is 500 nsec typical, 700 nsec max. Model 2470 gain stability is within ± 7 ppm/°C max. Model 2471 features gain and bipolar zero stability within ± 5 ppm/°C max.

Any one of five standard voltage ranges, programmed with internal resistor networks, can be selected by merely interconnecting external pins. These modules are fully encapsulated, with DMC's own void-free techniques, for high mechanical reliability.



BLOCK DIAGRAM

ADJUSTMENT FOR GAIN, ZERO

Dynamic Measurements Corp. 6 Lowell Avenue, Winchester, Massachusetts 01890

(617) 729-7870

Cable: DYMECO

TWX (710) 348-6596

SPECIFICATIONS

T-51-09-05

(Typical at 25°C, nominal supply voltage, unless otherwise specified)
(Minimum Warmup of 10 minutes)

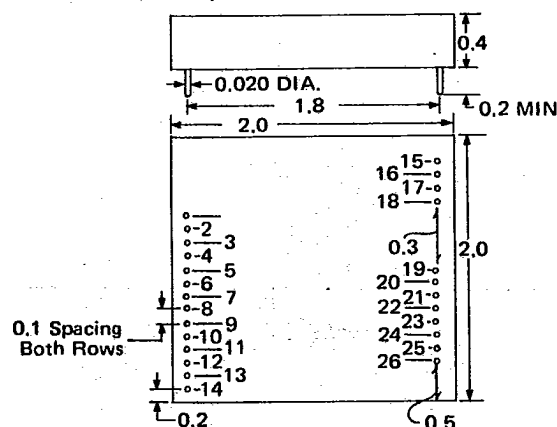
Resolution:	14 Bits
Accuracy:	± 0.006% of F.S. ± 1/2 LSB (Max. Deviation)
Temperature Stability:	
Max. Gain Deviation	±7 ppm/°C (2470) ±5 ppm/°C (2471)
Max. Bipolar Zero Deviation	±12 ppm/°C (2470) ±5 ppm/°C (2471)
Settling Time:	
To 0.01%	300nsec typ. 500nsec typ. 700nsec max.
To 0.003%	
Input (DTL/TTL Compatible) Coding:	Complementary Binary (Unipolar) Complementary Offset Binary (Bipolar)
Full Scale Output:	0mA to +2mA (Unipolar) -1mA to +1mA (Bipolar)
Power Requirements:	±15V @ 25mA +5V @ 35mA
Power Supply Rejection Ratio:	0.02%/%
Temperature:	
Operating	0°C to 70°C (derate 50% over -25°C to +85°C)
Storage	-55°C to +85°C
Relative Humidity:	0% to +95%, noncondensing

OUTPUT PROGRAMMING (with external op amp):

Output Range	External Pin Connections
0V to +5V	10V to Output*, 20V to I _{out} , Bip to Gnd
0V to +10V	10V to Output, Bip to Gnd
±2.5V	10V to Output, 20V to I _{out} to Bip
±5V	10V to Output, I _{out} to Bip
±10V	20V to Output, I _{out} to Bip

*Output is output of op-amp. I_{out} should always go to Summing Junction of op-amp.

OUTLINE DRAWING/PIN KEY

Dimensions in inches
mating socket:
DMC Model 6524
(2 req'd)

PIN CONNECTIONS

1 BIT 1 (MSB)	14 BIT 14
2 BIT 2	15 +5V
3 BIT 3	16 +15V
4 BIT 4	17 -15V
5 BIT 5	18 COM
6 BIT 6	19 GAIN
7 BIT 7	20 I _{out}
8 BIT 8	21 10V FS
9 BIT 9	22 20V FS
10 BIT 10	23 ZERO
11 BIT 11	24 SIG COMMON
12 BIT 12	25 V _{ref}
13 BIT 13	26 BIP OFFSET

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