SPECIFICATIONS:

POWER SUPPLY REQUIREMENTS:

+/- 10 VDC minimum with suffix AAA = 100

+/- 15 VDC minimum with suffix AAA = 150

The maximum power supply voltage is +/- 30 volts DC. The positive supply at terminal numbers 1& 3 must deliver a minimum of 40 ma.

RATED MAXIMUM OUTPUT FREQUENCY:	100 Hz. with suffix BBB = 101
200 Hz. with suffix BBB = 201	500 Hz. with suffix BBB = 501
1000 Hz. with suffix BBB = 102	2000 Hz. with suffix BBB = 202
The frequency values shown above are standard. Additional frequencies from 1 Hz. to 10,000 Hz. are available on special order. Interested user's should contact Datatran's Sales department for price and availability.	

OUTPUT FREQUENCY ADJUSTMENT RANGE:	10% to 100% of rated maximum.
OUTPUT FREQUENCY STABILITY AND DRIFT:	Better than 5% of rated maximum.
OUTPUT FREQUENCY WAVEFORM SYMMETRY:	Better than 60/40 percent:
RATED OUTPUT VOLTAGE:	+/- 5 volts dc with suffix CCC = 050
	+/- 10 volts dc with suffix CCC = 100
The +/- 10 volt dc output requires that the minimum power supply	voltage equal +/- 15 volts dc, suffix AAA = 150.
	100 to 1000 of rotad maximum
VOLTAGE OUTPUT ADJUSTMENT RANGE:	
VOLTAGE OUTPUT STABILITY AND DRIFT:	Better than 1% of rated maximum.
RATED OUTPUT SIGNAL CURRENT:	+/- 5 ma. maximum with all suffix CCC versions.
OPERATING TEMPERATURE RANGE:	- 20 degrees C to + 55 degrees C.

Extended temperature range operation is available, contact Datatran's Sales Department for availability and price.

OUTLINE DIMENSIONS:



GENERAL DESCRIPTION:

This dither generator module is designed to provide a bipolar triangle or square wave output for use as the dither input to high performance servovalve amplifiers. It should be used in applications where the utmost in system response and accuracy is required. In addition, it may also be used as a general purpose oscillator.

This industrial grade module utilizes a stable internal reference to minimize any variation of the output frequency and voltage as the ambient temperature and power supply are varied over the specified operating range.

In many applications, the addition of a small amount of dither signal to the controlling amplifier will greatly enhance the performance of the connected valve. The dither will introduce a small amount of oscillation around the setpoint position. This oscillation reduces the effect of static friction and results is improved response and resolution. The amount of oscillation should be kept below the value that will cause oscillation of the connected load.

Controls are included on the board to set both the output voltage amplitude and operating frequency. All controls are bracket mounted, single turn units with shaft locks. Either a triangle or square wave output can be selected by the position of a board mounted jumper. The output signals are bipolar and symmetrical around zero volts. This module requires a bipolar 10 to 30 volt DC power supply for operation.

The circuit board is solder masked. All external connections are made to a barrier type terminal block with #6-32 captive wire clamping screws. All external connections and controls are clearly marked.

PART NUMBERING SYSTEM:

Option identifier suffix groups ____

Model series identifier ____

C2642-AAA-BBB-CCC-DD

PART NUMBER SUFFIX GROUP EXPLANATION		
SUFFIX	DESCRIPTION	
AAA	Minimum power supply voltage	
BBB	Maximum rated output frequency	
CCC	Maximum rated output signal voltage	
DD	Factory installed option identifier	

Parts shipped from the factory will have the correct alphanumeric option identifier in place of the suffix letters indicated in the table above.

ORDERING INFORMATION:

Refer to the C2642 model series selection sheet for a complete listing of the currently available models.

DATA SHEET FOR DATATRAN C2642 DITHER GENERATOR MODULE

FOR TECHNICAL ASSISTANCE CONTACT CONIC SYSTEMS INC. 11 REBEL LANE, PORT JERVIS, NY 12771 TEL: (845) 856-4313 FAX (845) 858-2824 www.conicsystems.com

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APPLICATION INFORMATION:

OUTPUT WAVEFORM SELECTION: The output waveform select jumper should be in the "T" position for a triangle output or in the "S" position for a square wave.

SIGNAL ISOLATION: The common (0 volt) side of the power supply and output signal must share the same common as the driven device. The dither generator module does not provide signal isolation.

EXTERNAL WIRING: External dither signals should be twisted and shielded cable. All shields should be terminated at the servo amplifier only. Do not expose or connect the shield at any point in its run from the signal source to the servo amplifier. For optimum performance, all external connections to the valve driver should be via shielded cable

FUNCTIONAL DIAGRAM:



LINEAR SERVO AMPLIFIER APPLICATION:



PULSE WIDTH MODULATED DRIVER APPLICATION INFORMATION:



PULSE WIDTH MODULATED VALVE DRIVER DITHER ADJUSTMENT:

- 1) Set the "COMMAND" potentiometer for zero output volts. On the model series B2710, Signal Scaler, disconnect the dither input at terminal number 6 and adjust the "ZERO" control for zero volts at terminal number 9.
- 2) Set the "COMMAND" potentiometer for maximum output. On the Signal Scaler, adjust the "SPAN" control for rated input volts to the valve driver. Set the "COMMAND" potentiometer back to zero.
- 3) Reconnect the dither signal to terminal number 6 on the Signal Scaler. On the Dither Generator, adjust the should equal the amount of dither current required in percent. For instance, 10% dither current with a 5 volt maximum input signal would require a square wave with a .5 volt peak to peak swing (5 x .10 = .5). Adjust the "FREQUENCY" per the valve supplier's specification.
- 4) On the Signal Scaler, adjust the "ZERO" control so that the square wave at terminal number 9 swings between zero and a positive value. Do not allow the voltage at terminal number 9 to go negative.
- 5) On the valve driver, adjust the "MINIMUM" and "MAXIMUM" controls as required. Any changes in the dither signal amplitude will require readjustment of the "ZERO" control to prevent negative signals.

"AMPLITUDE" control for a square wave at terminal number 9, on the Signal Scaler. The square wave voltage