Joerger ENTERPRISES, INC.

MODEL TR612/3

SIX CHANNEL, 3MHZ, 12 BIT TRANSIENT RECORDER WITH "FASTCAMAC" READ

FEATURES:

- SIX INDEPENDENT, 3MHZ, 12 BIT TRANSIENT RECORDERS
- INDIVIDUAL ADC AND SAMPLE AND HOLD PER CHANNEL
- 512K OF SRAM PER CHANNEL
- **"FASTCAMAC"** READ
- ACTIVE MEMORY SIZE PROGRAMMABLE
- SINGLE WIDTH "CAMAC" MODULE
- BURST AND PRE/POST TRIGGERING MODES SELECTABLE
- INTERNAL CRYSTAL OSCILLATOR OR EXTERNAL CLOCK SELECTABLE
- OPERATING SPEED PROGRAMMABLY SET
- FULL AMPLITUDE BANDWIDTH OF 5MHZ
- ACQUISITION TIME FOR FULL SCALE STEP IS 150NS TYPICAL
- EACH CHANNEL FILTERED AND ISOLATED FOR IMPROVED PERFORMANCE AND HIGH CHANNEL CROSSTALK REJECTION

APPLICATIONS:

- ECONOMICAL, HIGH PERFORMANCE, MULTICHANNEL TRANSIENT RECORDING
- FULL PROGRAMMABILITY WITH LARGE INTERNAL MEMORY AND "FASTCAMAC" READ OFFERS VERSATILE SOLUTIONS FOR MANY APPLICATIONS

JOERGER ENTERPRISES, INC. MODEL TR612/3 is a high performance, six channel, 12 bit recorder packaged in a single width "CAMAC" module. Each channel is completely independent with its own 12 bit ADC, sample and hold amplifier and SRAM. The Model TR612/3 operates at 3MHZ with 128K or 512K of SRAM per channel. Data is read in block mode using F2(AX) or for high speed applications the new "FASTCAMAC" read protocol has been added. This uses command F5(AX) and a series string of S1 pulses at a rate of up to 2.5MHz per word greatly enhancing readout speed. To insure accurate results each channels input differential amplifier offers high input impedance, a full power bandwidth of 8MHZ and can acquire a full scale input in less than 150nsec's. These characteristics are often overlooked and the only important characteristic noted is the recording speed. However, the full signal must get to the ADC whether it be sinusoidal or pulse type or more likely a combination. Our ADC has a small signal bandwidth of 20MHZ, a full power bandwidth of 5MHZ and can acquire a full scale input in 150nsec and we have insured that our amplifier exceeds these specifications so the maximum performance of the ADC can be achieved. The input ranges are ±10v, ±5v, ±2.5v, 0 to +10v and 0 to +5v. The inputs are isolated to reduce noise pickup and lower channel crosstalk. An internal crystal oscillator is provided and the module can also accept an external clock. The clock source is programmably selected as is the active frequency used. The module can operate in burst or

pre/post trigger modes. The record mode and the active memory size are programmably selected to satisfy the current application. Great care has been taken to reduce noise susceptibility and channel crosstalk. The power to each channel's analog section is filtered and separate grounds are used. This approach has made our other "VME" and CAMAC recorders very successful.

SPECIFICATIONS (for each channel)

INPUT RANGE	±10v, ±5v, ±2.5v, 0 to +10v, 0 to +5v (shipped ±5v)
INPUT IMPEDANCE	1Mohms, differential
ANALOG BANDWIDTH	5MHZ for full scale input
ACCURACY	±.05% of full scale
APERTURE JITTER	40psec
SAMPLING RATE	3MHZ maximum
RESOLUTION	12 bits, no missing codes
MEMORY	128K SRAM standard, 512K optional
EXTERNAL CLOCK IN	TTL, 3MHZ maximum, can be daisy chained
CLOCK OUT	Active clock out, TTL (up edge active)
TRIGGER IN	Positive TTL pulse input, can be daisy chained
STOP IN	Positive TTL pulse input, can be daisy chained
STOP OUT	Directly connected to Stop In, used for daisy chaining

COMMAND	*Q*	*FUNCTION*
0_0,0_1	1	Reads active memory size, operating mode, pre/post trigger ratio, clock
0_2,0_3	1	Reads ranges selected and memory capacity on R1-R12
2_x	*	Reads data from selected channel on R1-12, and overflow on R13
5_x	*	"FASTCAMAC" read from selected channel, max. speed 2.5MHz
8_0	*	Test LAM FF
9_0		Arm module for a digitizing cycle
10_0		Resets LAM FF
16_0,16_1	*	Sets active memory size, operating mode, pre/post trigger ratio, clock
17_0	*	Sets module to read mode, presets address counter
24_0		Disables LAM response
25_0	*	Trigger cycle
25_1	*	Stops cycle
25_2	1	Abort cycle
26_0		Enables LAM response
27_0	*	Tests LAM FF
Z(S2)		Resets module
X		All valid commands generates X=1
L		An L is generated if the LAM FF is set and the response is enabled.

CONNECTORS:	Control Inputs LEMO RA00250, signal inputs RA0302
TEMPERATURE RANGE:	20∘C to 50∘C
INDICATORS:	"N" module addressed
	"ACTIVE" module active
	"LAM" cycle complete
POWER:	+6v @ 800ma; +24v @ 145ma; -24v @ 155ma
SIZE:	#1 CAMAC module
OPTIONS:	512K SRAM per channel, TR612/3-512

PLEASE NOTE: When choosing an analog input module many factors should be considered. It is recommended reading “SELECTING AN ANALOG INPUT MODULE” on our web site: www.joergerinc.com , under “What’s New”

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