MODEL QVS
QUAD VISUAL SCALER

FEATURES:

- HIGH COUNTING SPEEDS, 200MHZ TYPICAL
- FOUR 8 DIGIT COUNTERS
- EASY READING .8" DISPLAYS
- PRESET MODE
- 19" RACK MOUNTED
- LOW POWER CONSUMPTION

The Joerger Enterprises, Inc., Model QVS contains four 200MHZ counters with visual display in a 3 1/2" x 19" rack mounted instrument. Each counter has eight decades with .8" LED displays for easy visual readout. Leading zero suppression is incorporated to enhance readability. A test oscillator is provided to inject test signals into all four channels simultaneously as a means of checking the counters. Testing can be performed in the presence of external inputs by closing the input gates. The LED's are tested during reset by displaying all "8's". All four channels are controlled by a common set of manual and electrical inputs. A three position gate switch is provided that can open the input gates, close them, or allow the channels to be gated from an external source. Reset is provided by a manual pushbutton and an external input. The Start, Stop and Reset inputs are all pairs of bridged BNC connectors so that these signals can be easily daisy-chained to other units. A gate light is provided to indicate the condition of the input gate and an overflow light is provided for each channel to indicate if the channels capacity has been exceeded. For operations which may require greater capacity than eight digits, a carry output is provided for each channel.

The control signals are completely compatible with the older Nixie readout scalers and so the Model QVS may be easily incorporated into existing visual scaler systems. As an added feature, a preset mode is available. A front panel switch can select any decade output from two to eight for use as a preset. When the preset decade overflows, a Stop output signal is generated. This signal can be connected to the Stop input and to any other scalers where common control is desired to turn off the input gates. To further simplify multiscaler control, a Start and Reset output are also provided. In this way one scaler can be selected as master and its Start, Stop and Reset output can then be daisy chained to all the scalers to be controlled. Channel four is used as the preset channel, however, this in no way reduces its capabilities, in every other way it is exactly identical to the other channels. To improve reliability, low power IC's are used extensively and are all mounted in sockets for ease of repair.

SPECIFICATIONS

INPUTS

Signal

Input Impedance	50 ohms ±10% D.C. coupled.
Pulse Repetition Rate	200MHZ
Pulse Pair Resolution	5nsec
Sensitivity	-500mv
Pulse Width	3nsec minimum

INPUTS CONT'D.

Start/Stop/Reset	Start, Stop and Reset inputs require either a positive 3.5 volt signal lusec wide or a short to ground. The inputs are on the rear panel with each consisting of two BNC connectors that are bridged to facilitate daisy chaining units for common control.
OUTPUTS	
Start/Stop/Reset	Start, Stop and Reset outputs are available at rear panel BNC's. A +4 volt signal is generated in response to either a manual or electrical input for each signal. A Stop signal is also generated in response to the preselect mode. This allows one scaler to control other scalers in the system.
Carry Out	Carry Outputs are available at rear panel BNC's. They are negative going signals capable of generating -500mv into 50 ohms.
MANUAL CONTROLS	
Start-Stop	A three position monetary switch is provided to start and stop all four channels.
Reset	A pushbutton is provided to reset all four channels. This switch is also used to test the display. When the switch is depressed all eights will appear on the display.
Test	A test switch is provided that injects test signals into all four channels after the counting gate. All channels should track during test within ±1 count.
PRESELECT MODE	A preselect mode is available. It uses Channel 4 as the control channel. Any decade overflow from decade 2 through 8 can be selected by a front panel switch. When the selected digit overflows a stop output signal is generated. If this signal is connected to the stop input, all four channels will be inhibited at that time. To disable, set switch to "0".
DISPLAYS	
Data	Displayed on eight .8" LED displays with leading zero suppression.
Gate	An LED is provided to indicate when the counting gate is open.
Overflow	An LED is provided to indicate when that channel has overflowed.
TEMPERATURE RANGE	$0^{o}C$ to $50^{o}C$
POWER REQUIREMENTS	105V to 125V A.C. 50-440HZ, 30W 220V A.C., 50HZ (optional)
SIZE	3 1/2" X 19" X 14" chassis.
CONNECTORS	BNC

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