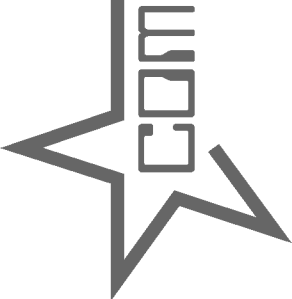
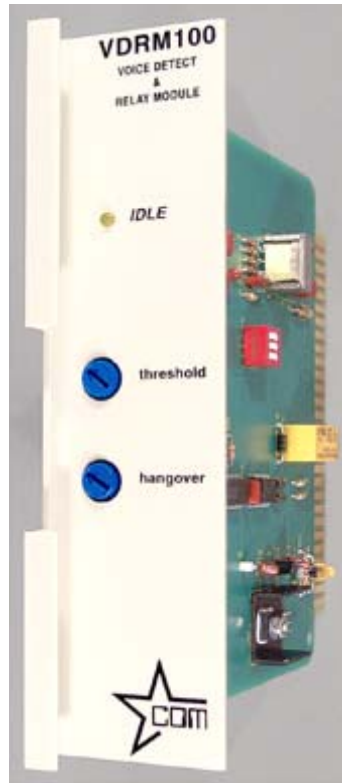


Starcom Incorporated



VDRM100

VOICE DETECT and
RELAY MODULE



Description

The VDRM100 voice detect and relay module provides a fast operating relay that activates in response to a voice signal on the associated transmission circuit or in response to an external ground. When optioned for voice activated relay control, the module can be adjusted to respond to minimum speech levels as low as -45dbm or as high as 0dbm. The VDRM100 is used in applications requiring switched response to the presence of speech or voice band energy or ground potential in the ground activated mode, for control of external equipment. Because it is not part of the transmission path, the VDRM100 can be used in either 2wire or 4wire circuits.

A yellow idle indicator on the front panel should be on when power is applied and the circuit is idle. Whenever the relay operates in the Vox or Answer mode the idle indicator will turn off.

Mounting

The VDRM100 module mounts in one position of a type 10 shelf. The module plugs into a 56 pin connector at the rear of the shelf.

Power

The VDRM100 is powered by any filtered voltage between -22 and -56vdc. Current is 20 to 30ma.

Connections

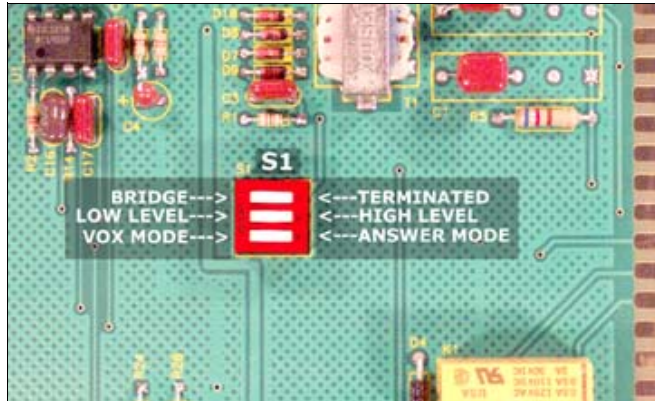
All connections to the VDRM100 are made on the 56-pin card edge connector.

DESIGNATION	PIN	DESIGNATION	PIN
Tip	47	Relay common 2	34
Ring	49	Relay normally open 2	32
L1 audio tip	37	Relay normally closed 2	36
L2 audio ring	39	Answer	23
Relay common 1	11	Lock ground	15
Relay normally open 1	9	- Power	35
Relay normally closed 1	13	+ Ground	17

Options

The VDRM100 has a 3-position dip switch that must be set before the module is put into service.

DIP SWITCH OPTIONS



SWITCH S1	OPEN	CLOSED
1 – IMPEDANCE	BRIDGED >10K ohms	TERMINATED 600 ohm
2 – SENSITIVITY	LOW -45dB to -22dB	HIGH -25dB to 0dB
3 – MODE	VOX MODE	ANSWER MODE

Option 1

S1-1 is used to select either 600 ohm or bridging input impedance to the module in the Vox mode. Set S1 closed for 600 ohm termination. Set S1 open for a bridging connection. In the bridging connection verify that the facility was preciously terminated.

Option 2

S1-2 is used to select the input sensitivity range for operation in the Vox mode. Set S2 open for a detection threshold from -45 to -22dbm. Set S2 closed for a threshold range from -25 to 0dbm. Adjustment within either range is made via front panel R15 threshold control .

Option 3

S1-3 is used to set the operating mode. Set S3 open if speech energy detection is to be used to operate the relay (Vox mode). Set S3 closed for the answer mode.

Answer Mode

In the answer mode, the module's speech detecting circuitry is disabled and the relay operates when an external ground signal is received. The answer mode is selected when S1-3 is closed. The relay operates when there is a ground to the LG lead and a momentary ground, 50ms or longer, appears on the Answer lead. The relay remains operated until ground is removed from the LG lead.

Vox Mode

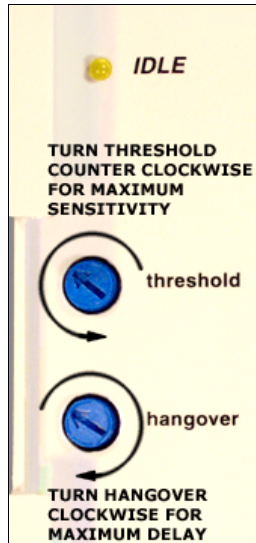
Voice activation is selected when switch 3 is open. In the voice activated mode, the VDRM100 speech detection threshold is continuously adjustable over two switch selectable ranges: -45 to -22dbm and -25 to 0dbm. A second front panel control provides adjustment of the relay release delay. This delay is adjustable from approximately 400ms to approximately 6 seconds. These adjustments provide a means for discriminating against background noise that may contaminate the input speech signal and for preventing release of the relay during momentary pause in speech.

In the Vox mode, the VDRM100 input impedance may be set to terminate or bridge the circuit. With S1-1 closed, the circuit is terminated. When terminated, the module's input impedance is 600 ohms. When bridged, the module's input impedance is in excess of 10,000 ohms. The VDRM100 can therefore be used either to terminate a transmission facility or to function in a bridging capacity across a circuit terminated elsewhere.

Alignment

Alignment of the VDRM100 for voice activated operation consists of setting the sensitivity threshold and hangover time controls located on the module's front panel. No alignment of the VDRM100 is required in answer mode application.

FRONT
PANEL
CONTROLS



Threshold

To adjust the sensitivity threshold, first make sure that S1-2 is set for the appropriate sensitivity threshold range. Next, turn the threshold control fully clockwise. The control is now set for minimum sensitivity. Using a transmission measuring set connected to pins 47 and 49 insert 1khz tone at the desired threshold level. Close S1-1 to provide the proper 600 termination for the test set. Adjust the threshold control slowly counter clockwise until the relay just operates.

Hangover

To adjust the hangover time, turn the hangover time control fully clockwise for maximum hangover time. Remove the input test tone. Note the amount of time before the relay de-energizes. Turn the hangover time control counter clockwise as required to shorten hangover time to the desired duration.

Specifications

GENERAL

Size5.6"H x 6.06"D x 1.4"W
Weight 6oz
Operating power22 to 56 volts DC
Power consumption22mA idle, 35mA active
Outputs2 form "C" contacts
Contact rating:
 resistive 1A @ 30vdc; 0.5A @ 30vac
 inductive 0.2A @ 30vdc; 0.1A @ 30vac

VOX MODE

Input sensitivity:
 low -45dB to -22dB
 high -25dB to 0dB
Input impedance:
 terminated 600 ohms
 bridged >10k ohms
Hangover adjustable; 0.4 seconds to 6 seconds



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