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# Technical Bulletin

## AV-9900 HTST Recorder/Controller Remote Diversion Setpoint Option

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AV- 9 9 X X X X  X X 0 X 3 3 A H

- 0 - No Remote Setpoint**
- 1 - Two Remote Setpoints**
- 2 - Four Remote Setpoints**

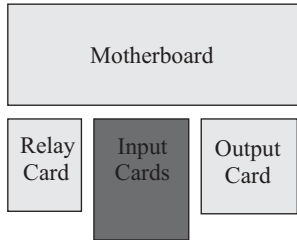
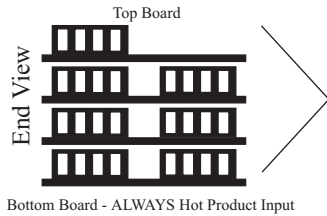


Fig 1 - Board Layout



Note: All boards may not be present. Configuration is dependant on unit configuration.

Fig 2 - Input Layout

May be single or dual boards. Depends on unit configuration.

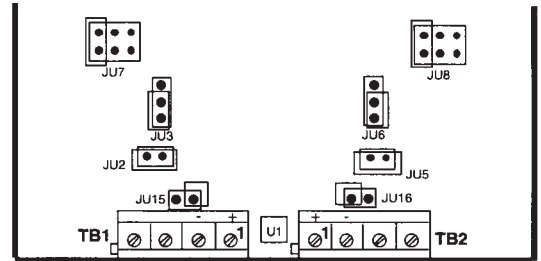


Fig 3 - Wiring

### I. General Operation

When outfitted with Remote Setpoint option, *keyboard selection* of the Diversion Setpoint is **no longer active**. A remote dry contact closure is used to initiate setpoint selection. A version with either TWO or FOUR remote setpoints is available. Consult the instrument model number to determine which unit you have.

### II. Location of Contact Closure Inputs

Using Fig 1, locate the INPUT cards within the Model 9900 unit. As in Fig 2, these boards will be horizontally stacked. Using the matrix model number recorded on the sticker inside of your unit, determine if either TWO or FOUR Remote Setpoints are installed.

Input boards may be single or dual channel, depending on the configuration of your unit. One channel is located from the center of the board to the left, with the remaining channel located from the center of the board to the right.

Remote Setpoint inputs are always the LAST channel or channels installed in the unit. Looking at the TOP input board in the stack, determine if this is a *single* or *dual* input card. If a *single* input card, start at the LEFT channel. If a *dual* input card, start at the RIGHT channel.

#### Two Remote Setpoint Configuration

As instructed above, the first channel encountered is the input channel for selection of *Setpoint 1* or *Setpoint 2*. Proceed to the next section for wiring information.

#### Four Remote Setpoint Configuration

As instructed above, the first channel encountered is the input channel for selection of *Setpoint 3* or *Setpoint 4*. The next channel back will be the input for *Setpoint 1* or *Setpoint 2*. If the top board was a single channel board, you must move down one board, to the right channel.

### III. Wiring

Wiring of the inputs is shown in Fig 3. Connections are made to the (+) and (-) terminals on the appropriate channel. Fig 3 also shows proper jumper positions for the circuit board. Remember to only change the jumpers for the Right or Left channel as required, keeping in mind that a dual input card may share another non-remote setpoint input.

### IV. Operation Logic

Figure 4 shows the logic of operation used to select a Diversion Setpoint. The system should be wired failsafe as any break or open of the remote input wires always causes the system to default to *Diversion Setpoint 1*.

	Contact 1	Contact 1	Contact 2
Setpoint 1	OPEN	OPEN	OPEN
Setpoint 2	CLOSED	CLOSED	OPEN
Setpoint 3	OPEN	OPEN	CLOSED
Setpoint 4	CLOSED	CLOSED	CLOSED

Fig 4 - Contact Closure

### V. Interaction with Hot Water Control

The standard 9900 offers the feature of multiple Hot Water Controller Setpoints automatically tracking the Hot Product Diversion Setpoint. This occurs when a new diversion setpoint is selected. This function remains the same when utilized in a remote setpoint configuration.

A *two* or *four* remote setpoint unit, when programmed with one Hot Water Setpoint, must have the Hot Water Setpoint manually changed by the operator. A *two* remote unit with *two* active Hot Water Setpoints will cause automatic selection of the associated Hot Water Setpoint. A *four* remote unit with *four* active Hot Water Setpoints will cause automatic selection of the associated Hot Water Setpoint.

**NOTE: On a FOUR remote setpoint unit, you should ONLY utilize One or Four Hot Water Setpoints.**

For additional information pertaining to Hot Water Controller programming refer to the AV-9900 Operations Manual.