

### Power Supply

### Temperature Controlled Fan

The diagram illustrates a temperature-controlled fan circuit. It features an NTC thermistor (TH1) that provides a temperature-dependent voltage signal. This signal is processed by an op-amp (U3-2) configured as a voltage follower. The op-amp's output drives the base of a transistor (Q2), which in turn controls the power to a fan (FAN-240REJST). A diode (D2) is used for protection. The circuit is powered by a +12V supply.

## Soft Latching Load Switch

The circuit diagram illustrates a Soft Latching Load Switch. It features a +12V supply connected to a network of resistors (R9, R4, R1) and capacitors (C7, C8). A switch (SW1) is connected to the input of the NAD55P comparator (U101). The comparator's output (pin 3) drives a load (LOAD) through a resistor (R8). The load is connected to a +5V supply. A feedback path (R12) connects the output back to the input. A diode (D3) is connected in parallel with the load. The comparator's internal components (VCC, RESET, TRIG, THRES, OUT, DISCH, CNT, GND) are labeled. The output is also connected to a label LSTATE.

[illegible]

Diagram illustrating the connection of a 7-segment display to a microcontroller (PHT101 CX102B) for displaying the output of a 10-bit ADC. The display shows the value -1.8.8.8.

The display is connected to the microcontroller via a 7-pin header (JP2). The connections are as follows:

- VCC:** Connected to +5V.
- GND:** Connected to ground.
- D0:** Connected to pin 1 of JP2.
- D1:** Connected to pin 2 of JP2.
- D2:** Connected to pin 3 of JP2.
- D3:** Connected to pin 4 of JP2.
- D4:** Connected to pin 5 of JP2.
- D5:** Connected to pin 6 of JP2.
- D6:** Connected to pin 7 of JP2.

The microcontroller is also connected to a DSRC component via a 10kΩ resistor (R14) and a 100kΩ resistor (R13).

Modulator Input

The diagram shows a circuit for the Modulator Input. A BNC connector labeled 'FUNC' is connected to a 1k 1% resistor (R1). The other end of R1 is connected to a 100k resistor (R2). The other end of R2 is connected to the non-inverting input (pin 3) of an op-amp (U3-1). The inverting input (pin 2) is connected to ground. The op-amp output (pin 1) is connected to the non-inverting input (pin 3).



Diagram showing three voltage sources in series:  $+12V$ ,  $+5V$ , and  $+2V$ . A downward arrow indicates a current flow.

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