



+12 volts from panel
 0 volts from panel
 Transmit data to panel
 Receive data from panel

ACD panel	Concept 1000/2000	Tecom	Multi Elect.
Red cable	Red cable	Red cable	Red cable
Black cable	Black cable	Black cable	Black cable
	Blue cable		
	White cable		

STU232

by MCM Electronics

Panel - Stu connections.

There are four terminals at the bottom right corner of the pcb for connection to the Alarm panel.

The terminal marked **0v** connects to 0 volts.

The terminal marked **+12v** connects to +12 volts.

The terminal marked **TX** connects to the panel's RX connection. The STU transmits data through this connection to the panel.

The terminal marked **RX** connects to the panel's TX connection.

The STU receives data through this connection from the panel.

The Leds.

On the RS232STU there are 5 leds.

Red led - Indicates that low tone is on.

This led is one of three leds mounted in the centre of the pcb.

This led will only come on after the STU has been upped by the agency.

The led will turn off when the STU has a change of state to report.

Yellow led- Receiver carrier detect indication.

This led is one of three leds mounted in the centre of the pcb.

This led will be lit when a tone within the frequency range of the receiver is on the telephone line. This tone may be a poll from the Scanner or just sporadic noise caused by speech on the line.

Green led - Processor operating.

This led is one of three leds mounted in the centre of the pcb.

This led flashes to indicate that the micro-processor is operating.

It must always be flashing whenever power is applied.

Yellow led - Panel data. This led is one of two leds located at the end of the PCB.

This led should be normally off and flash on every 1 second, indicating data from the panel is being received by the STU.

Red led - Stu data. This led is one of two leds located at the end of the PCB.

This led should be normally off and flash on every 1 second, indicating that the STU is polling the panel.

Note If the HARD ID is changed on the panel after the STU has been upped by the agency, the STU will go offline and will need to be upped again.

Terminals

There are six terminals on the right side of the pcb.

Terminal 1 will send an alarm on pin 1 when connected to negative and a restore when negative is removed.

Terminal 2 will send an alarm on pin 2 when connected to negative and a restore when negative is removed

Terminal 3 will give a tamper report (pin 12) when the terminal is connected to negative and a restore when negative is removed.

Terminal 4 will send an alarm on pin 9 when connected to negative and a restore when negative is removed.

Note: The inputs above report on pins in the LONG STATUS which are also controlled by the panel.

The reports given for these pin are arbitrated between the above terminals and the panel.

Terminal - is the Common negative terminal.

Terminal OP is the securitel output terminal. When the agency turns the output on this terminal will switch to negative until turned off by the agency This terminal will sink 100 mA Maximum.

High integrity Comms earth.

There are 2 terminals at the top of the pcb.

Both these terminals are the same and connect to a dual GAS ARRESTOR.

This device is the same as that used by Telecom in exchanges and main frames to protect against lightning induced voltages.

If this terminal is connected to an earth rod or cold water pipe, the tolerance to high voltage or lightning induced transients is greatly increased. The Telecom input normally has a high tolerance to transients but with this terminal connected the tolerance is even greater.

Use a heavy conductor for this purpose 40/020 or similar.

Telecom line socket.

This is where the Telecom lead, supplied with the unit is connected.

The Telecom lead uses pins 2 & 6 of the Telecom socket for the incoming line in a mode 40 arrangement. (Austel approval A89/26B/187)

Securitel Technical Aspects.

There are some differences between the MCM STU and the NESS SIU in performance and the way in which some information is handled to and from the Alarm panel.

The Alert tone delay is fixed and the serial message from the panel that is used to change the Alert tone delay is ignored.
(Alert tone delay is fixed at 20 seconds)

The STU has just been polled status bit (sent from the STU to the panel) is set after every poll and is timed out after 10 minutes.

Securitel serial messages are limited to the **standard** derived channel protocol and are buffered from the panel. This improves the message throughput significantly by queueing the serial messages and repacketising the messages for faster transmission on securitel.

The MCM STU will not be able to be upped by the control room if the connected alarm panel has never responded to a poll from the STU.
(i.e. The HARD ID has not been received from the panel.)

If the STU is reset (power removed) the HARD ID is reset and the STU will have to be reinitialised by the panel. (If the STU is seperately powered down and the panel has not been powered down then the STU may not be reinitialised.)