

Revised! — see *Protective Earthing Addendum*

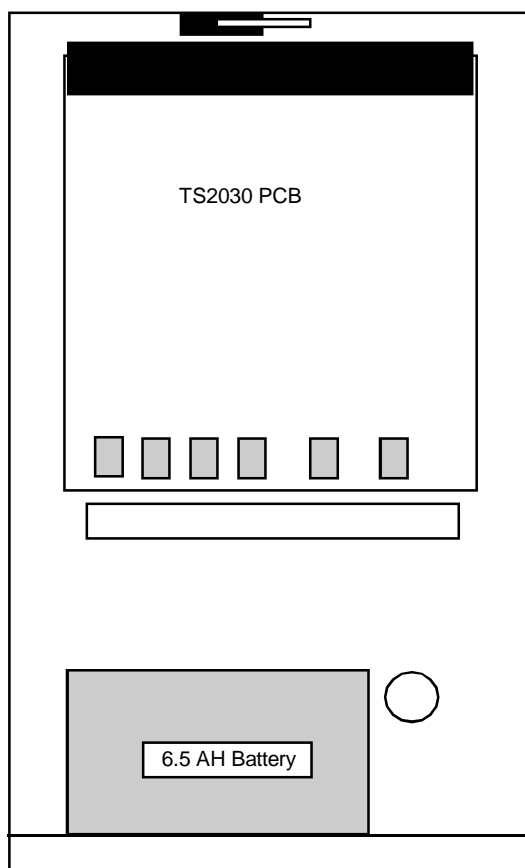
NOTE: This equipment must only be installed and serviced by professional qualified personnel.

The Network Concentrator Link is a fully self contained unit providing 4 lines for expansion of the Direct Line Network.

The link communicates with Network Master Line Cards in Direct Line mode via the "Uplink" socket, or in Dialler mode via the "Phone" socket.

i.e. In the event of a Direct Line failure between the Network Master and the Concentrator Link, a Dialler backup can be provided.

A Concentrator link provides 4 Direct Lines which can each support 10 Alarm panels.



CAUTION !

AC Plug Packs:

State Energy Authorities require that AC Plug packs such as those supplied with this equipment, have an internal fuse to prevent overheating and fires caused by overload and short circuits. This requirement means that if the output leads are shorted, even momentarily, the internal fuse will operate and disable the secondary output.

When installing plug packs, **do not** power the unit until you have terminated the leads and checked that you do not have a short circuit.

Fused plug packs cannot be replaced under warranty as the fuse operation can only be caused by a direct short circuit.

Standards Australia stresses that the need for fire prevention in electrical products cannot be overstated, hence the need for design requirements such as the one mentioned above.

Mounting:

The unit is mounted via screws through the four mounting holes in the base.

Enclosure dimensions:- TS2030 enclosure is 520mm high, 260mm wide and 82mm deep with space provided for a 6.5AH Sealed Lead Acid battery. Front and rear tamper switches are fitted to the enclosure.

Note: Units should only be used in a clean environment and not in humid air.

Cover:

The cover can be removed by unscrewing the four Allen head bolts on the top and the ten bolts on the sides securing it. **ALL fourteen bolts MUST ALWAYS be used to secure the cover.**

This is necessary to comply with Austel approval requirements.

Note that tamper alarms are fitted to detect cover removal and removal of the base from it's mounting surface.

Connections:

- AC:** ~ Connection of the 16 Volt AC Plug pack supplied with the unit.
 ~ Current consumption is 850mA maximum, with no peripheral devices fitted.

- Earth SEC Earth connection from the AC Plug pack may be connected to this point only if there is no suitable building earth available to earth the system.

- BATT:** + Positive and Negative connections to 12V Sealed Lead Acid battery.
 - (6.5 AH Maximum).
 OR Connection of External 12V Power Supply if AC Plug pack not used. (Fit LK2 "DC")

- AUXPWR:** + 12 Volt DC Auxiliary power output to supply detectors, etc. (100mA maximum)
 -

- AUXRELAY:** CMN Common, Normally Open and Normally Closed 1 Amp Dry Relay Contacts.
 NC Can be remotely switched by the "Point 3 ON/OFF" commands from the Network Master.
 NO

- L/ALARM:** 1 Inputs and Common connections for local alarm points.
 C Require 10k End-of-line resistor for Seal.
 2 Open or Short circuit for Unsealed.
 C The two alarm inputs are provided on the board for connection to the tamper switches and PIRs as required at the installation.
 See : Input wiring options.

- L/KEY:** Keyswitch input and Common connection provided for a Momentary keyswitch for arming and disarming of the alarm inputs. Wired as per Alarm inputs above.
 Switching from Sealed to Unsealed will toggle the arm/disarm state of the alarms.
 See : Keyswitch connection.

- Earth:** Lug Terminal for earthing. Earth wires from all pieces of equipment must be earthed at **one common earth point**. E.G. Main switchboard earth or building earth (water pipe).

- COMMS:** - Data positive, data negative and Common terminals for local connection of the RS485 LAN to Network Concentrator Sub-links, avoiding the need for a line connection.
 D+ The Sublink can be up to 1.5 klms from the first Network concentrator, depending on the cable used. Two pair twisted shielded data cable (Belden 8723) is recommended.
 D- The shield of the data cable should be connected to 0V on the first Unit and not connected at any other end.
 See : RS485 Data connection to Sublinks.

- DDSUplink:** An RS232 port is provided for connection to a Data Digital Service uplink which can be used in place of the normal "Uplink" or "Phone" socket.

Line Connections:

D/LINK:J8 Downlink line0 The Downlink Lines allow connection for up to 10 Alarm panels
 J9 Downlink line 1 each, with each panel having a unique address between 0 & 9.
 J10 Downlink line 2
 J11 Downlink line 3

Pin-out of 603/604 Plug.
 On cable connected to Downlink lines, J8 to J11.

1	
2	
3	Earth
4	DOWN-LINE +
5	
6	DOWN-LINE -

U/LINK:J6 Direct Line (Private Line) connection to Network Master.

Pin-out of 603/604 Plug.
 On cable connected to Uplink line, J6.

1	DOWN-HIGHWAY +
2	
3	Earth
4	UP-HIGHWAY +
5	DOWN-HIGHWAY -
6	UP-HIGHWAY -

Example of Highway Connection:

Network Master Highway (Private Line) connects to the UP-HWY of the first link.

First Link: UP-HWY connects to a highway (one of 12) of the Network Master.
 DWN-HWY connects to UP-HWY of the Second Link.

Second Link: UP-HWY connects to DWN-HWY of the First Link.
 DWN-HWY connects to UP-HWY of the Third Link.

This process is repeated for all 10 links connected on the Highway, with no connection being made on the DWN-HWY of the last link.

PHONE:J7 PSTN Line for dialler backup of the Link in the event of Direct Line failure.

Pin-out of 603/604 Plug.
 On cable connected to Phone line, J7.

1	Phone +
2	PSTN +
3	Earth
4	
5	Phone -
6	PSTN -

Fuses:

- F1:** 1A Auxiliary.
- F2:** 3A Battery.

Links:

- TERM:** LK1 The termination jumper link must be in if the Link is the first or last device on the RS485 LAN connection to Sub-links if used.
- DC:** LK2 This link is fitted if the Network Concentrator Link is powered from a separate DC Power Supply connected to the BATT +/- terminals.
- GND:** LK3 This link connects the negative of the supply to the panel chassis and earth lug.
- 1M/2M:** LK4 This link selects the memory size of the RAM and is factory set.

RS485 Data connection to Sub-links:

Links must be connected via a 2 pair twisted shielded data cable (Belden 8723 is recommended) from the LAN connection of the nearest device which is connected to the LAN line.

The shield of the data cable should be connected to earth at the first Link and not connected at any other end. If several Links are used, the cable between them should be connected to earth at the first Link and not at the second. Units are connected in parallel as follows.

Concentrator Link	Sub-link 1	Sub-link 2	Sub-link 3
+			
- - - -
D+ D+ D+ D+
D- D- D- D-

Dipswitch settings:

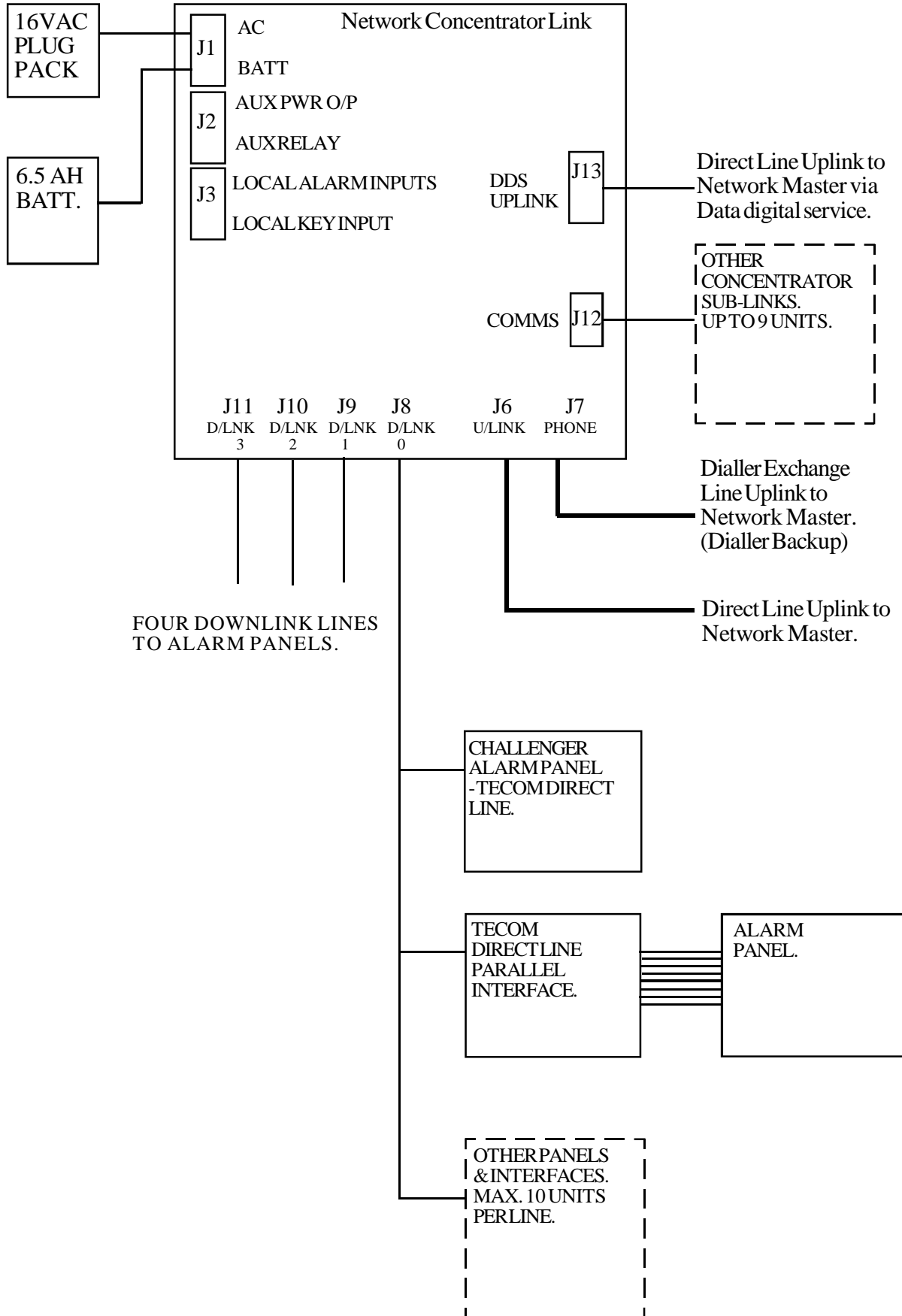
DIPSWITCH 1 to 4 Dipswitches 1 to 4 are used to identify this Link number:

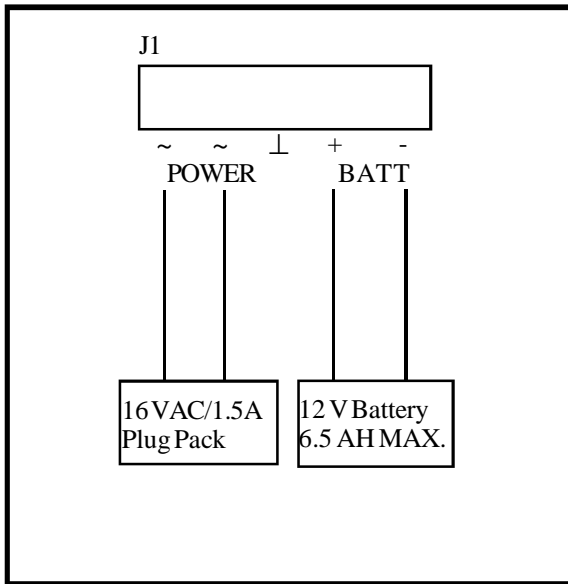
LinkNo.	1	2	3	4
0	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON

DIPSWITCH5 Not Currently Used.

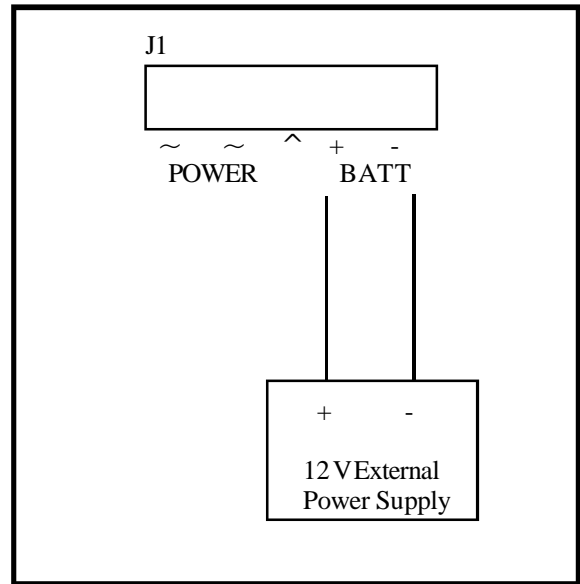
DIPSWITCH6 ON RS232 (DDS UPLINK) enabled.
OFF Modem (UPLINK LINE) enabled.

Interconnection Block Diagram:

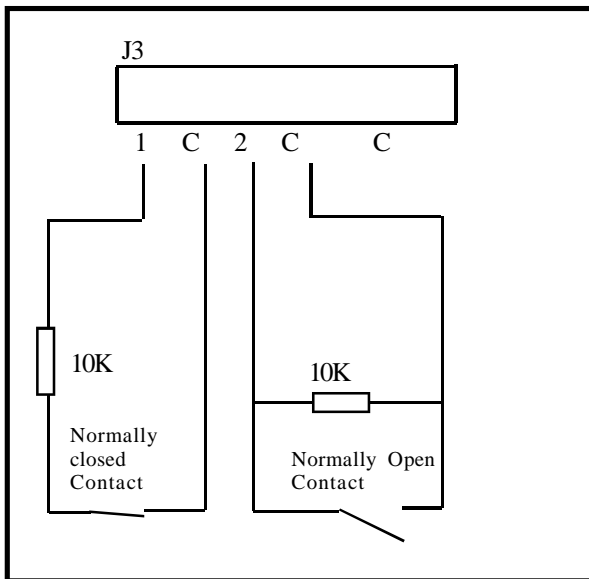




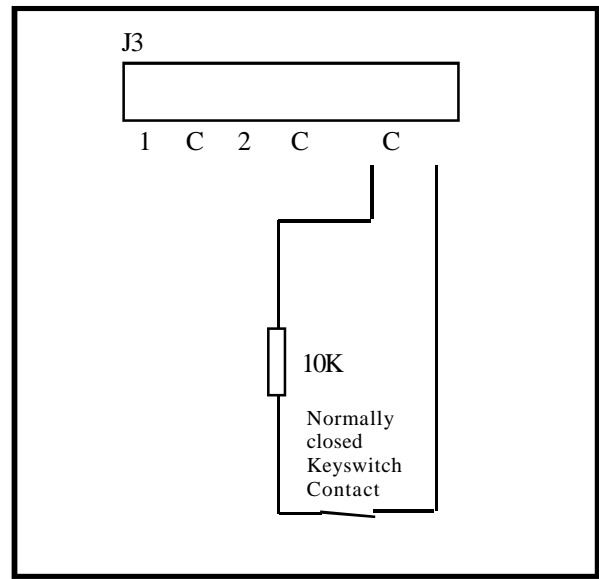
POWER - AC PLUG PACK



POWER - DC SUPPLY



INPUT WIRING OPTIONS



KEYSWITCH CONNECTION

WARNING:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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