GENT
by Honeywell

Vigilon Voice Alarm System

Commissioning

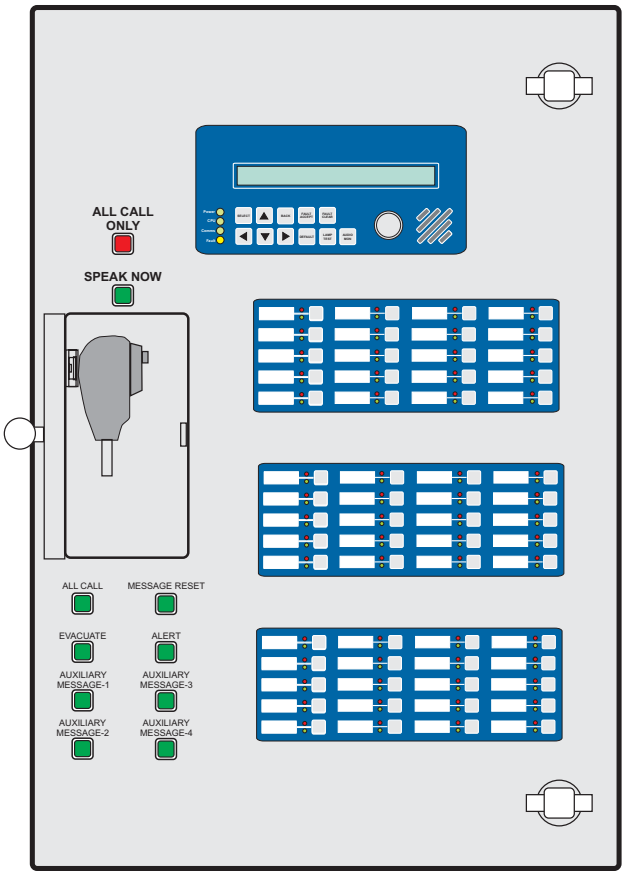

Table of Contents

Preface

This is the first issue of the Commissioning instructions for the Vigilon/ Orator Voice Alarm system.

Associated documents

Vigilon Voice DAU Installation and Operation
Vigilon Voice Audio Control Unit Installation and Operation
5, 10 and 20 Zone Digital Microphone station installation
Emergency microphone
Ambient noise sensor
I/O Expander Unit
Remote Volume Controls and Programme selector

Conventions

This is a note to highlight important text that is normally hidden in the main text.

This is either a caution to prevent damage to the equipment or a warning to inform of dangerous conditions that may result in injury or death.

Symbol Keys


What you will see


What you will hear

Safety and Precautions

Environmental precautions

The temperature and humidity ranges shown in the specifications for this product must not be exceeded. This equipment must not be installed in an area that is subject to a corrosive atmosphere, excessive moisture or may allow water or other liquids to come into contact with the unit or its external connections. In the close proximity of some radio frequency transmitters, the signal to noise ratio of this product may be reduced. If this occurs, re-locate the equipment or install signal cables to one that is recommended.

ESD Precautions

This product contains static-sensitive devices. Observe ESD precautions when working on the equipment with the cover removed or making connections to the Field Terminals.

Electric shock safety

Always ensure that the equipment is correctly earthed by connection to an AC mains supply with a protective earth connection.

This product contains wiring that is energised to 230V rms AC mains and 100V rms audio signals at up to 20kHz. Terminals marked with the symbol are hazardous and the external wiring connected to these terminals requires installation by an instructed person. Always replace blown fuses with the correct type and rating (see Product Specifications).

This equipment is intended for continuous operation and as such does not contain an external mains switch. It is considered as a system which is permanently connected to the mains. An all-pole mains switch with a separation of 3mm in each pole shall be incorporated in the electrical supply spur feeding the unit.

Internal Mains and Battery isolator switches are included for service purposes.

If the inner electronic module's cover is removed then hazardous voltages are still accessible even if the internal Mains Isolator switch is OFF.

Fire / Burn safety

The 24V DC batteries connected within this unit can deliver very high currents that could cause fire or burns. Take care to avoid short-circuits of the battery supply by tools or jewellery. Always replace blown fuses with the correct type and rating (see Product Specifications).

Weight safety

This equipment is very heavy. Please lift and handle with care to avoid strain or impact injuries, and follow the recommended installation procedure. Install the electronic module and batteries after mounting the back-box and chassis to the wall.

To prevent injury, this apparatus must be securely attached to the wall in accordance with the installation instruction.

You must switch-off AC mains and Battery supplies before plugging/unplugging amplifiers and interface cards or you may damage the electronics.

When powering up the unit, turn on the mains switch before turning on the battery switch.

Ensure adequately rated cables are used for power supply and loudspeaker connections, and route input cables away from power and loudspeaker cables.

LITHIUM BATTERY

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type. Dispose of battery carefully to avoid environmental damage. Do not dispose of battery in a fire.

Abbreviations

ACU - Audio Control Unit
ADC - Analogue to Digital Converter
ANS - Ambient Noise Sensor
BMB - Breakout Multi Box
C - Common
CH -Channel
DAU - Distributed Amplifier Unit
DIL - Dual In Line
DKC - Display Keyboard Card
DMS - Desk Microphone Station
DPCO - Double Pole Change Over (relay contacts)
DSP - Digital Signal Processing
DVA - Digital Voice Announcers (Messages)
EOL - End Of Line
FAB - First Action Byte
FMS - Fireman's Microphone Station
HF - High Frequency
IO or I/O - Input Output (Interface unit)
IP - Ingress Protection
LED - Light Emitting Diode
LPC - Loop Processor Card
LPCB - Loss prevention council certification board
MCC - Main Control card (Local controller CARD 0)
MCP - Manual Call Point
Mpeg - Moving Picture Experts Group
N/C or NC- Normally Closed
N/O or NO- Normally Open
NIU - Network Interface Unit
NVM - Non Volatile Memory (NVM on MCB CARD14)
O/C or OC- Open circuit
OS - Outstation or Device
PC - Personal Computer
PCB - Printed Circuit Board
PIN - Personal Identification Number (usercode, password, access coder)
PSU - Power Supply Unit
PVC - Polyvinyl chloride
QB - Quick Blow (fuse)
RAM - Random Access Memory
RASTI - Rapid Speech Transmission Index
ROM - Read Only Memory
S/C or SC- Short Circuit
SAB - Second Action Byte
SPCO - Single Pole Change Over (relay contacts)
SPL - Sound Pressure Level
T - Anti-surge (fuse)
TBA - To Be Advised
USB - Universal Serial Bus

Pre-visit checks

- ☐ Ensure 2-copies of *as fitted wiring drawings* available to assist commissioning of the voice system.
- ☐ Any damaged equipment has been noted for replacement.
- ☐ Ensure access will be provided to system equipment installed in the protected premises.
- ☐ The installer *electrical contractor* will be in attendance until the installation is proved.
- ☐ Site contact or representative will be available during the visit.
- ☐ Ensure a commissioning tool with associated cables and printer along with instructions are available.
- ☐ Ensure spare parts are available, such as:
  - MCP glasses
  - MCP test key
  - Printer paper roll
  - Equipment door keys
  - Various End Of Line resistors.

Points to remember

Earth leads

- ☐ All *earth leads* supplied with the system equipment must be securely fitted to maintain earth continuity.

Parts for later installation

- ☐ All unused parts should be retained in their respective container for safe keeping until required.

Loop/Ring wiring

- ☐ The loop/ring circuits should have been connected in accordance with the *as fitted wiring drawings* and the ACU and DAU instructions

Enclosure

- ☐ Access into equipment enclosure is usually by means of opening an outer door/cover. A panel may have an inner door which will need opening.

Unattended equipment

- ☐ Where equipment is to be left unattended, then it is important to close the door / cover for safety.

Static precaution

- ☐ The discharge of static electricity can damage or degrade sensitive electronic components on PCBs. Anti-static procedures should be followed when handling *static sensitive boards*.

It is important that anti-static procedures are NOT carried out on live equipment.

Removal and disconnection

- ☐ Any disconnection of cables or removal of parts of an assembly must be restored and replaced.

Battery

- ☐ To prevent damage to batteries and equipment, the terminals of the battery must not simultaneously touch any conductive part of the equipment enclosure.
- ☐ Sealed lead acid battery can have a useful life of up to 5 years from the date of manufacture, it is strongly recommended that batteries are replaced after 4 years. The batteries must be disposed of correctly by following battery manufacturers recommendations.

Powering up

- ☐ When equipment is being powered up always connect the mains supply before the battery supply. Power-down should be done in reverse order.

Arcing may occur when the battery circuit is connected to mains powered equipment.

Fire plan

- ☐ The system should be tested in accordance with the project specification.

Site specific installation

- ☐ Plant equipment interfaced to the system should be tested to recommendations made in the project specification.

A typical Commissioning process

To prevent injury to person and damage to system equipment observe safety and precautions given in this booklet - see page 3

The following list is for guidance only. It shows possible things to do when commissioning the voice alarm system. Some points may not be applicable to the your system.

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- ☐ Configure any remote I/O on the RS485 bus, see page 21
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- ☐ Programme DVA (Message) triggers via Contact, see page 21
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System overview

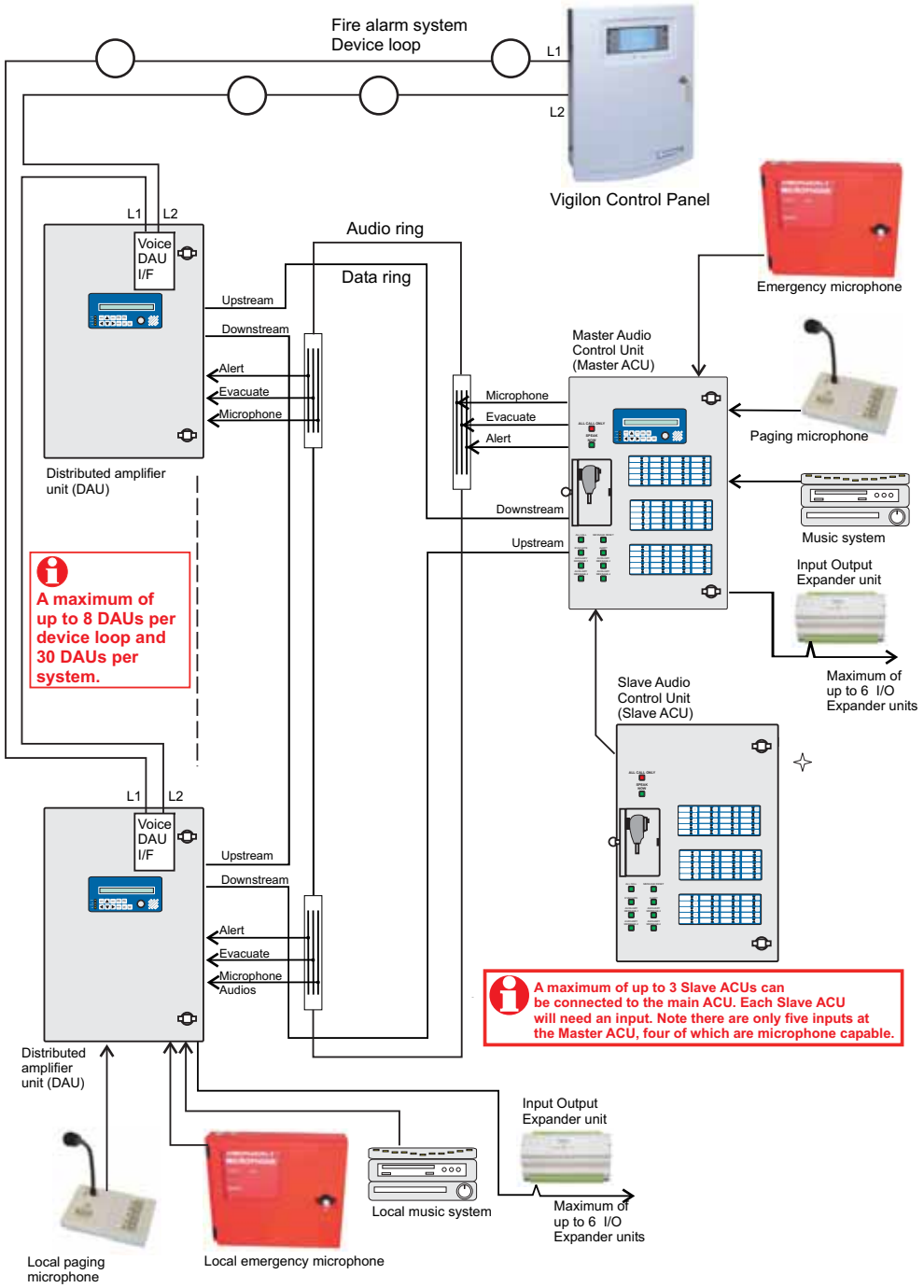
Software versions

DAU Micro	1.3 0059
DAU DSP	2.5 0216
ACU Micro	1.4 0094
ACU DSP	2.5 0216
Network I/F EPLD:	6

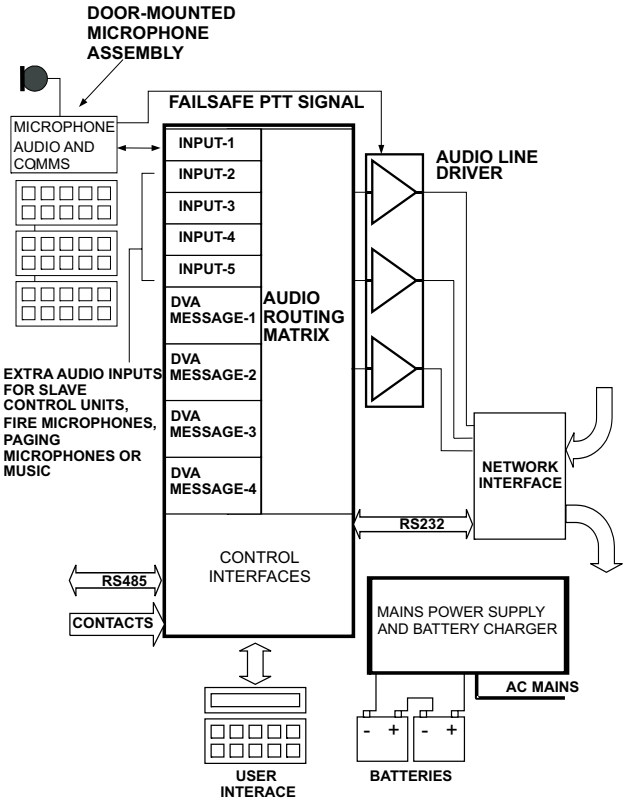
System parameters

Products	Maximum
Distributed Amplifier units	Up to 8 per device loop and 30 per system
'slave' Audio Control Units that can be added to a master Audio Control Unit	Up to 3
Distance between nodes (data transmission)	1km Total audio network cable usage must not exceed 3km

System architecture



Structure of Audio Control Unit (ACU)



Structure of DAU

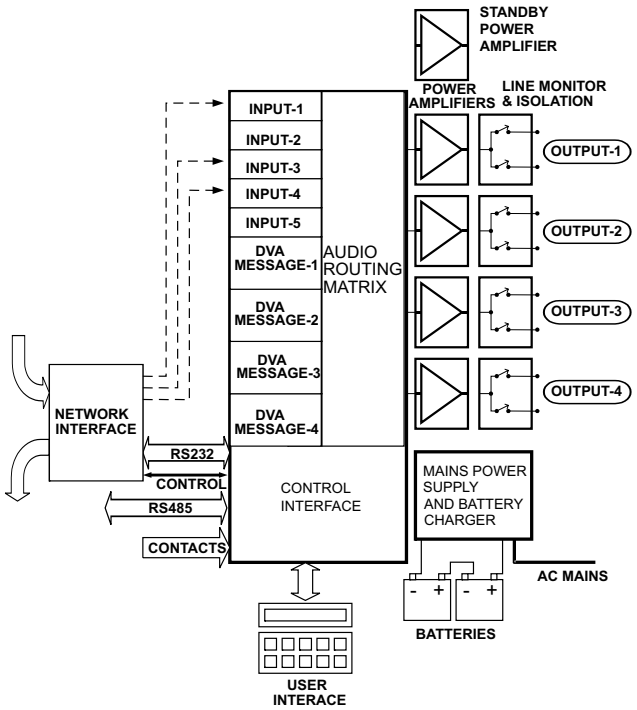
The amplifier system comprises a module containing four 'working' amplifiers plus one standby amplifier. This plugs onto a Motherboard which in turn, houses four LSDDC Surveillance Modules.

The amplifier system has four electronically balanced line level inputs. Each of these inputs features a serial communications interface to allow zoneable paging or Fire microphones to be connected.

The first two inputs can be used for Fireman's Microphones in Voice Alarm systems because they have the facility for an analogue bypass mode in the event of processor failure/mis-operation failure, as required by BS5839 Part 8. The serial interface may be used to support Zoneable Fire Microphones on these inputs. In the event of processor failure or communications failure, the operation reverts to All-Call.

A fifth, unbalanced, input is provided typically for background music applications.

Each DAU additonally provides four stored Messages - Digital Voice Announcer (DVA).



Distributed Amplifier Unit

Check Earth bonding in the unit

All earth connection points should be clean to provide a good electrical conductivity path. To maintain the earth continuity all earth leads and fittings provided must be installed.

Check loudspeaker wiring

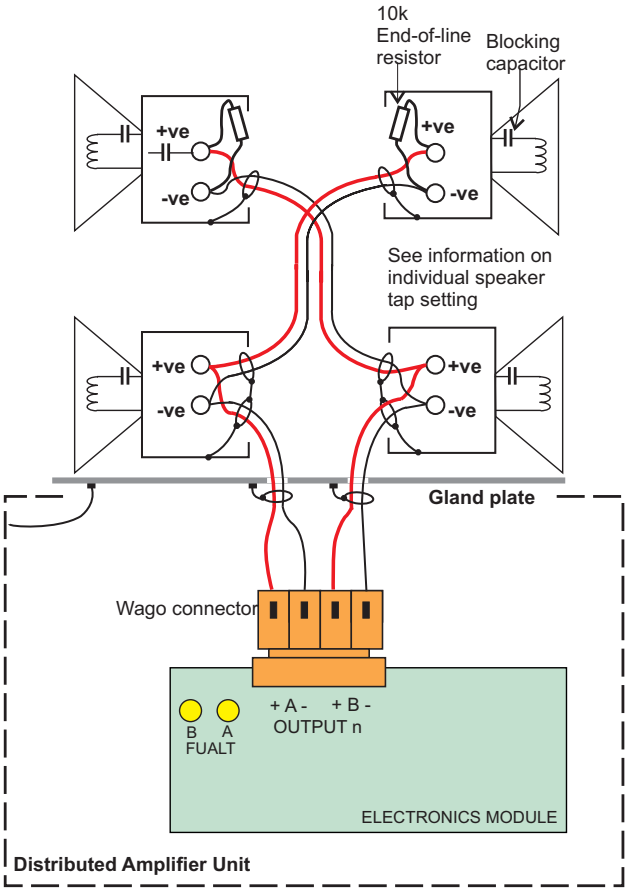
Ensure all loudspeakers are fitted with blocking capacitors.

Check the impedance of all loudspeaker lines and ensure they are within amplifier load limits and record results. The correct speaker impedance depends on the rated amplifier power of the circuit for:

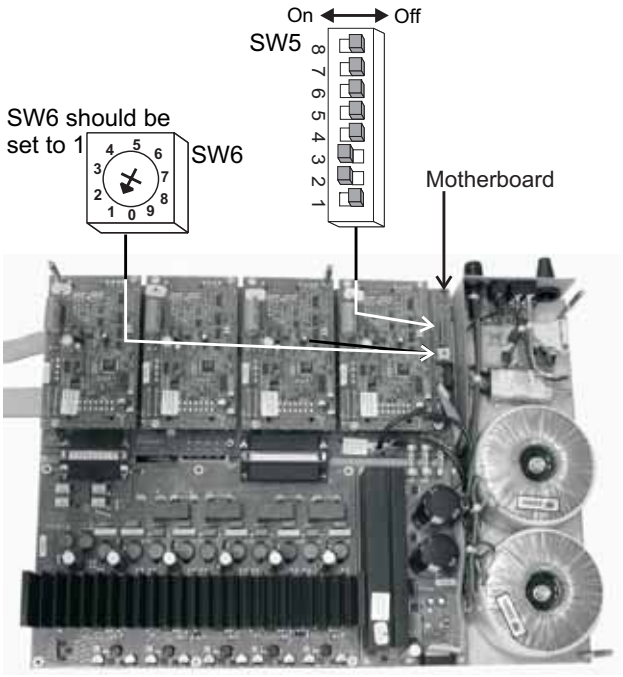
25W 400 Ohms
50W 200 Ohms
100W 100Ohms
200W 50 Ohms

The DC resistance should be checked. It should match with the number of EOLs fitted. A very low value indicates that a speaker has no capacitor fitted.

The A and B speaker output circuits should be evenly loaded. Check also the isolation of all loudspeaker lines to earth.



Check the settings of DIL switch settings on Mother board

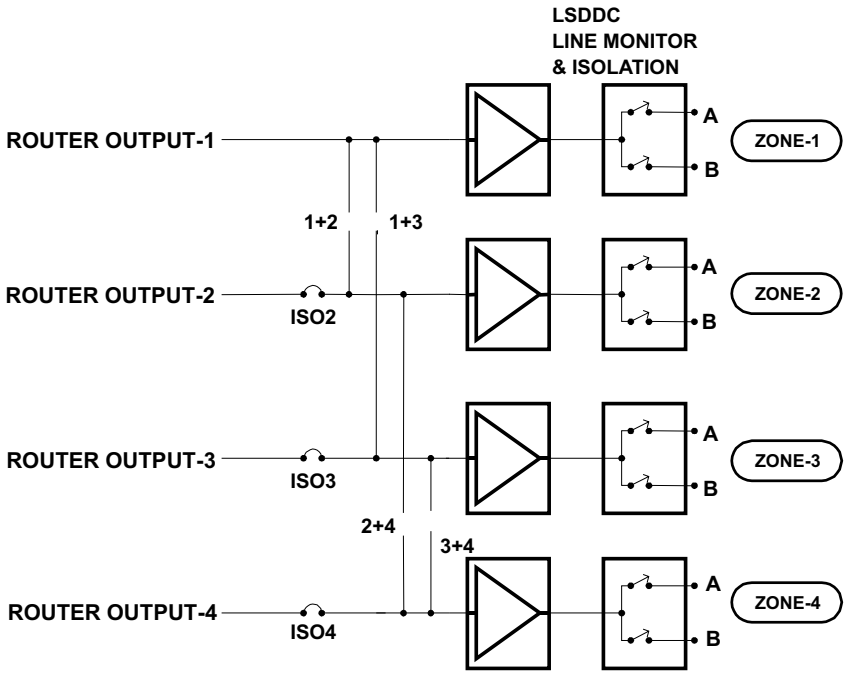


Switch SW5	Description
1	**Deep Discharge Disconnect Enable**: Set to OFF to automatically switch-off the amplifier mainframe if the standby battery supply voltage drops below 21V. This protects the battery from being completely discharged.
2	**Mains Fault Reporting Enable:** Set to OFF only if the mainframe is being supplied from batteries only (no AC mains).
3	**Battery Fault Reporting Enable:** Set to OFF only if the mainframe is being supplied from AC mains only (no batteries).
4	**AUX Supply Fault Reporting Enable:** Set to ON to monitor the status of the Aux Out Fuse. Required for compliance with BS5839:Part 8:1998 and BS EN 60849:1998 if the Aux supply is being used to power other equipment.
5	Not Used
6	**Power Mode:** Set to ON to identify the Amplifiers as 100W
7	**Power Mode:** Set to ON to identify the Amplifiers as 200W
8	Not Used

Configure Router Outputs to Amplifier Inputs

A number of link options enable different configurations of router outputs to amplifier inputs.
The most common configurations are shown below:

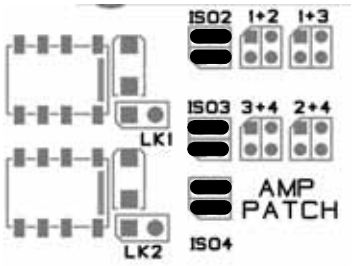
Four Outputs



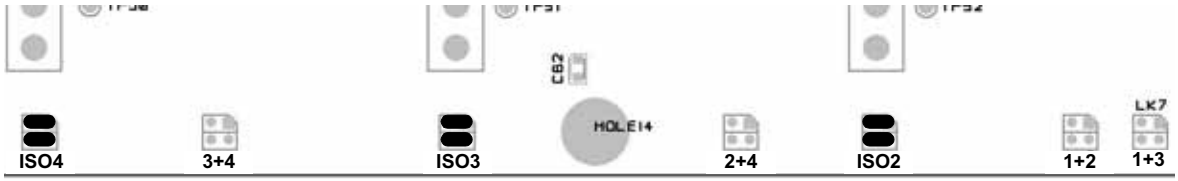
FOUR ZONES WITH A, B CIRCUITS

Link settings

200W DAU

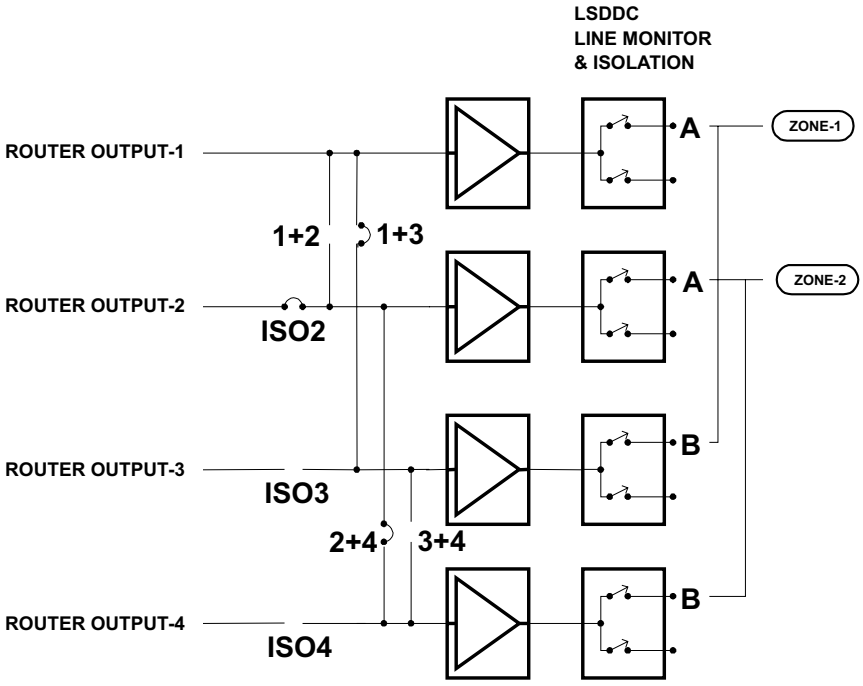


400W DAU



= LINK FITTED IN ORIENTATION SHOWN

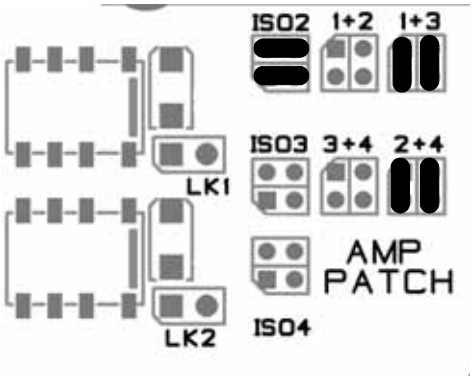
Two Outputs



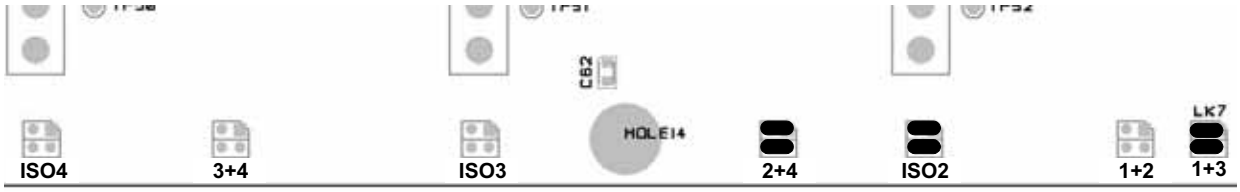
TWO ZONES WITH A, B CIRCUITS

Link settings

200W DAU

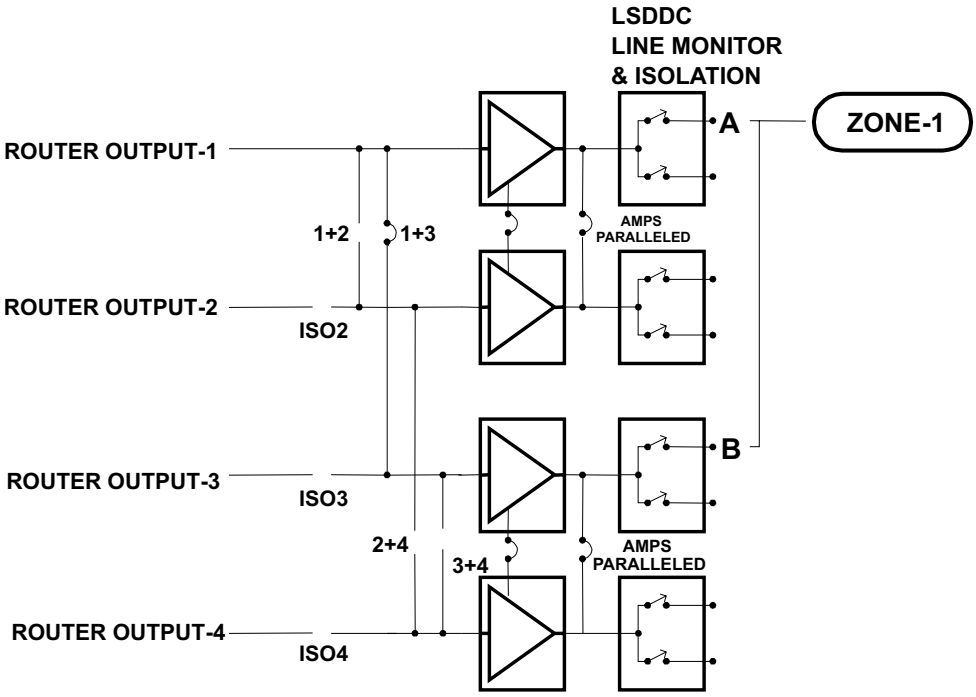


400W DAU



= LINK FITTED IN ORIENTATION SHOWN

One Output

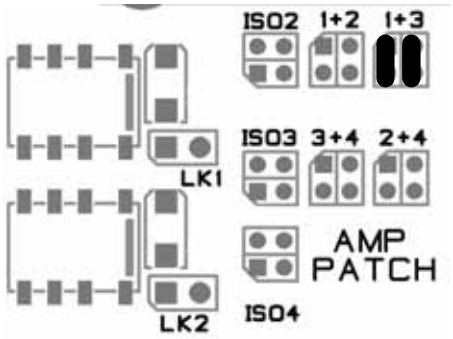


ONE ZONE WITH A, B CIRCUITS

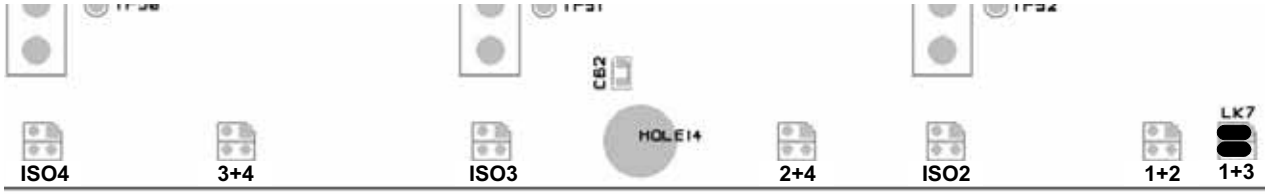
This last configuration usually uses parallelled amplifiers

Link settings

DAU-200



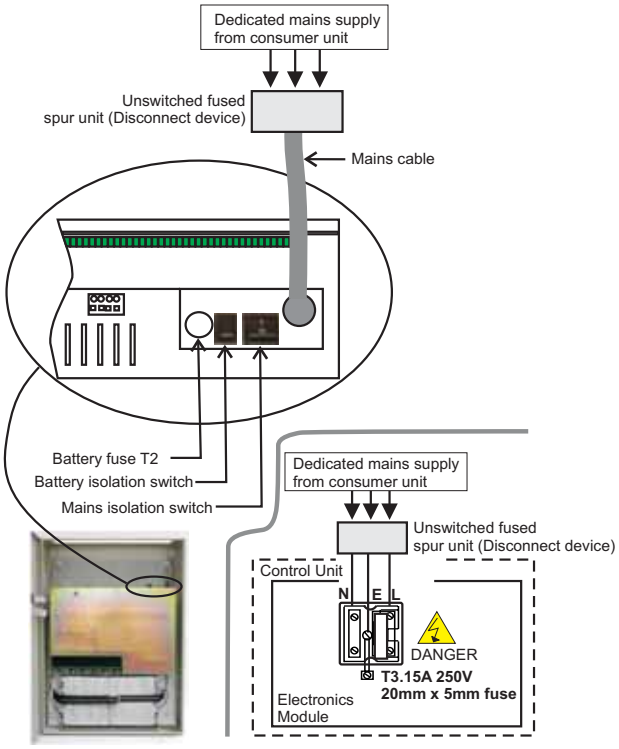
DAU-400



= LINK FITTED IN ORIENTATION SHOWN

Power up the Unit

Ensure the mains and battery supplies are connected. The two switches located on the top of the electronic module are switched ON.



With the equipment powered up check that "healthy" status is indicated on the door.

Password Protection

The DAU and Audio Control Unit (ACU) are password protected to prevent unauthorised alteration of the system configuration.

System configuration cannot be changed unless the operator is 'Logged-on' by entering the correct Access Code.

Only qualified personnel very familiar with the equipment and configuration requirements should 'Log-on' to alter the system configuration.

The factory set password is 0999.

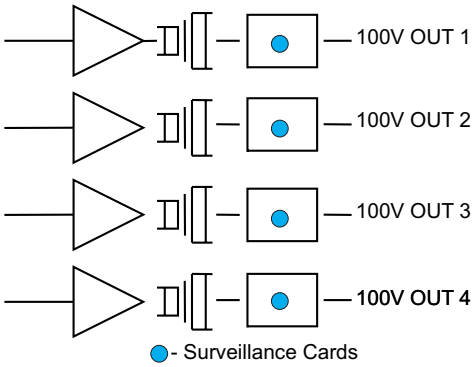
Parallel Power Configuration

The Distributed Amplifier Unit 200W variant can be configured either as four 50W units or paralleled to form two 100W units. The standby amplifier is 100W.

The Distributed Amplifier Unit 400W variant can be configured either as four 100W units or paralleled to form two 200W units. The standby amplifier is 100W, so reduced power is engaged if the standby is used.

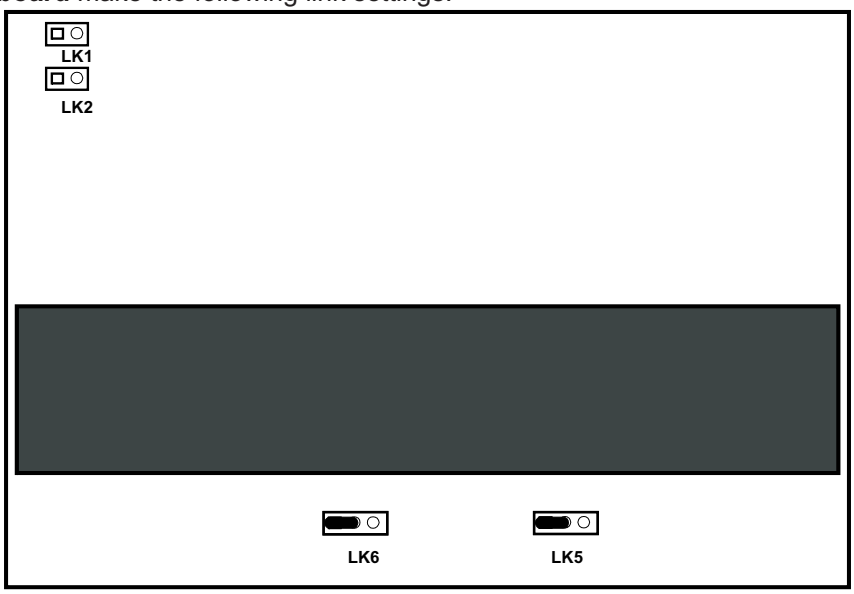
Normal Configuration

This is the default configuration:



DAU-200 Link Settings for non-parallel operation

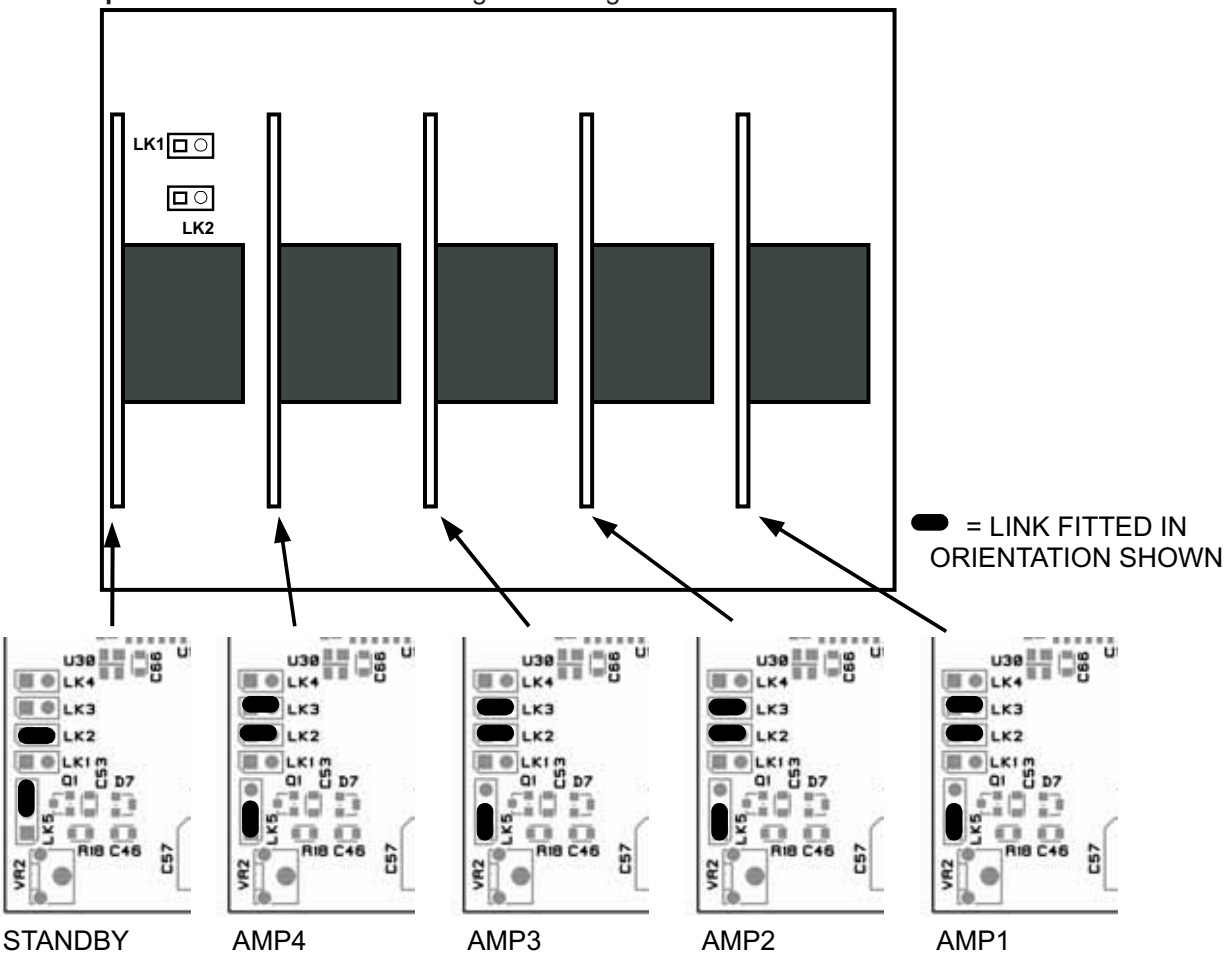
On the **Amplifier board** make the following link settings:



☐ On the Motherboard:
DIP SWITCH POS 6 =OFF

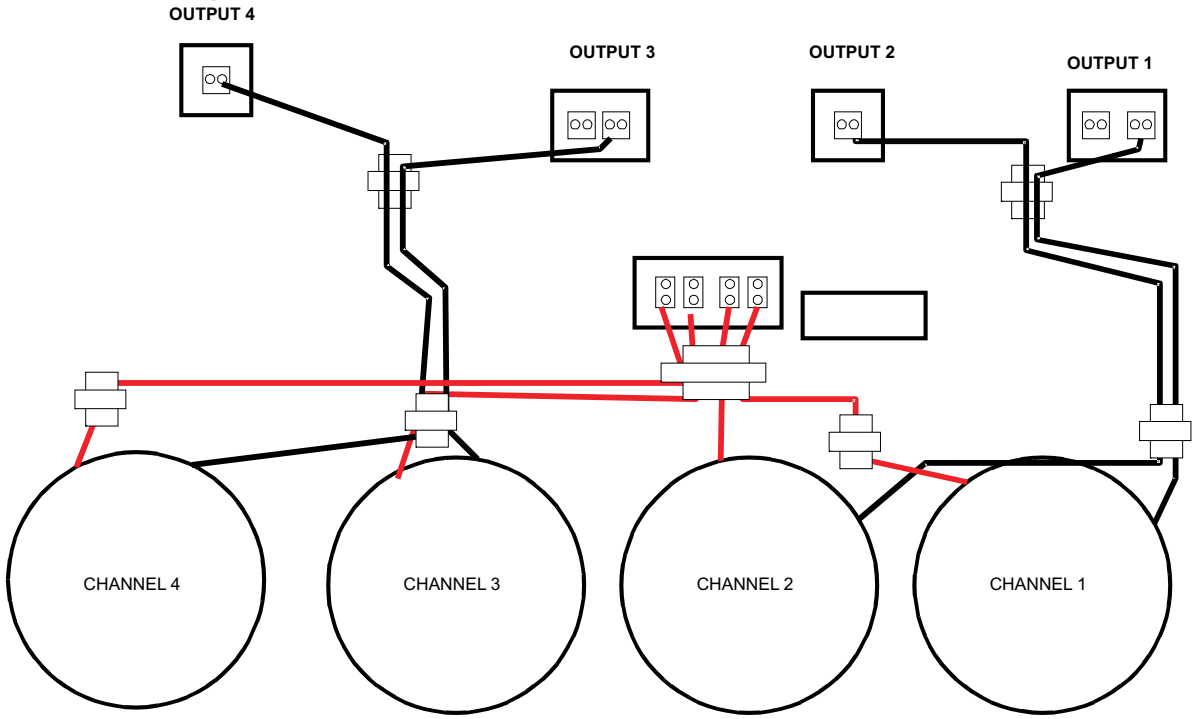
DAU-400 Link Settings for non-parallel operation

On the **Amplifier board** make the following link settings.



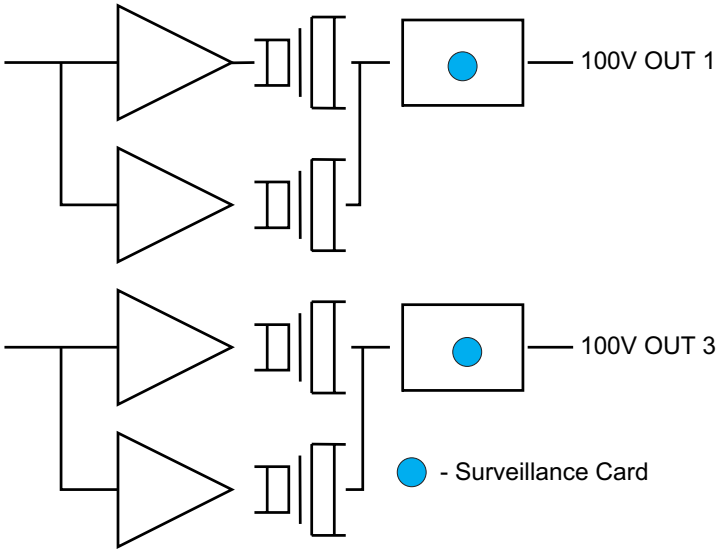
☐ On the Motherboard:
DIP SWITCH POS 6 =ON

Transformer wiring - all models



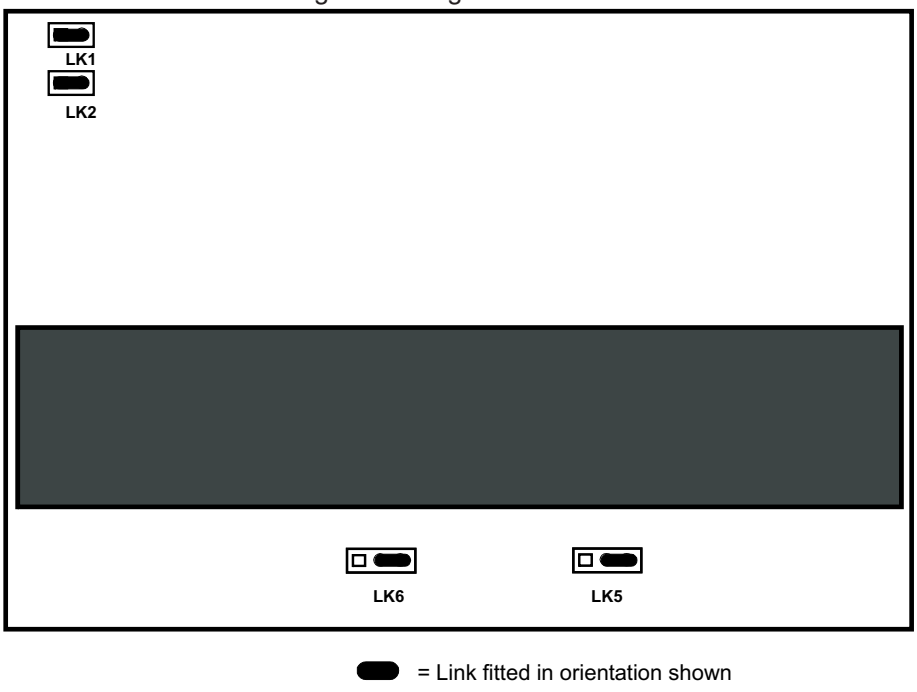
Paralleled Configuration

This is the parallel configuration:



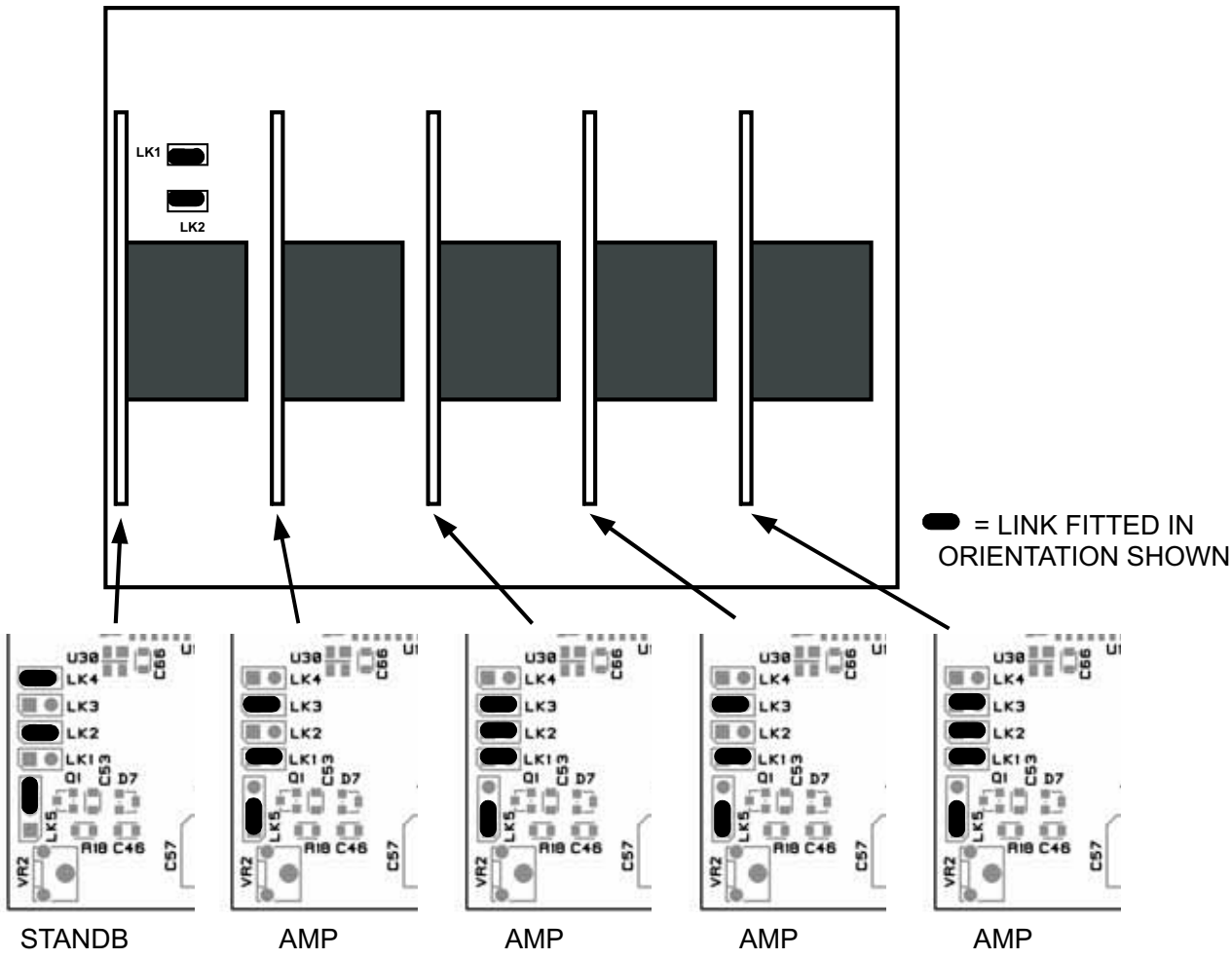
DAU-200 Link Settings for parallel operation

On the **Amplifier board** make the following link settings:



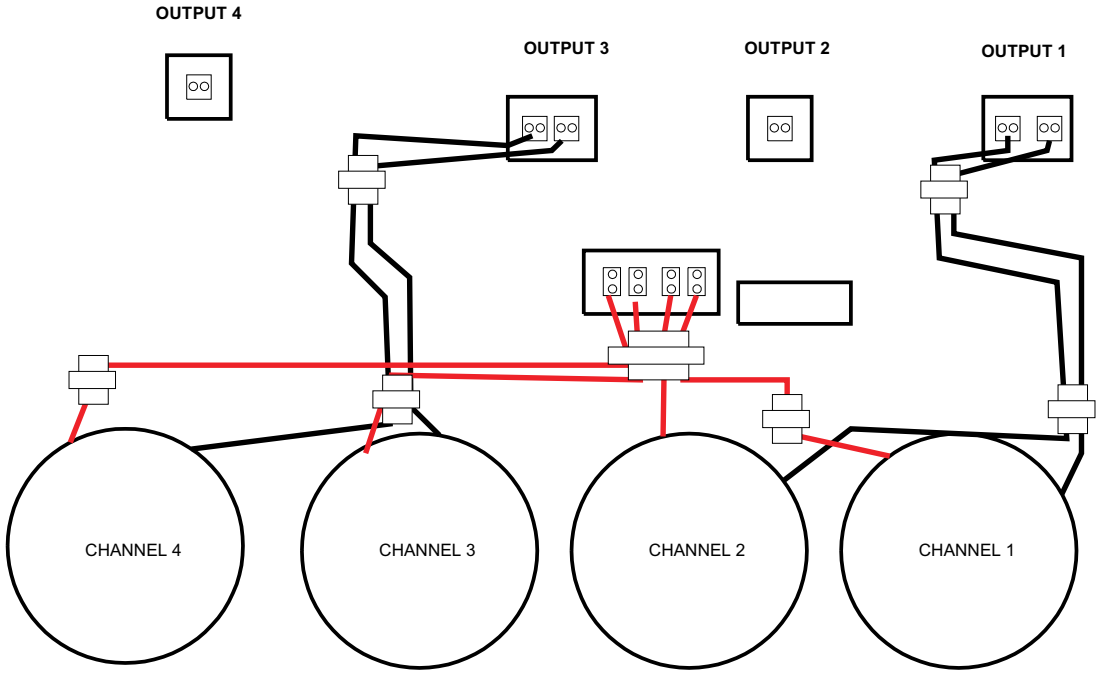
☐ On the Motherboard:
DIP SWITCH POS 6 =ON

DAU-400 Link Settings for parallel operation



☐ On the Motherboard:
DIP SWITCH POS 7 =ON

Transformer wiring; all models



Surveillance

Each amplifier channel uses an LSDDC surveillance interface. This interface card provides; amplifier health monitoring via subsonic surveillance tone, automatic control of changeover to standby amplifier, loudspeaker line earth leakage monitoring, and loudspeaker line "End Of Line" (EOL) monitoring.

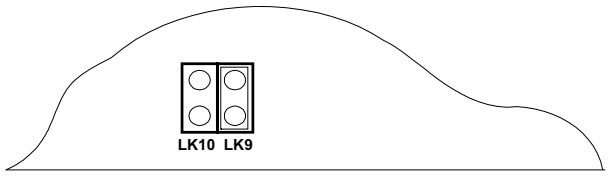
Uniquely, it enables two circuits (A&B) to be fed from a single amplifier while still maintaining BS5839 Part : 8 compliance. This is done using relays in series with each output facilitate isolation of faulty speaker circuits.

A second mode of operation allows loop return monitoring to be implemented.

Set the loudspeaker Surveillance mode

The Surveillance Modules are configurable in three modes by means of a jumper on the PCB.

Mode	Setting
Single Circuit	LK9 fitted
Dual Circuit	No link fitted
Loop Return	LK10 fitted



EDGE OF PCB

Set the loudspeaker line Surveillance

The three types of surveillance AC, DC and Earth Leakage must be configured for each amplifier slot. This is achieved via the front panel menus.

For each loud speaker circuit set up:

AC Surveillance

The surveillance frequency must be set to LF and the Interval to 20s to suit the DAU Router. The input and output surveillance thresholds may then be automatically acquired. This is done by visiting the thresholds menu and waiting from the screen to update with the measured values. Pressing SELECT stores these values as the reference thresholds.

DC Surveillance

The DC surveillance function should be set to ENABLED. The number of end of line resistors expected can then be set in the SPURS field. Selecting SET and pressing SELECT then commissions this value.

The READ function enables the number of End of Line Resistors physically present to be automatically detected. Selecting READ will acquire the value of spurs. If the value displayed is correct as predicted, pressing SELECT will transfer this value to the SPURS field. Pressing SELECT then commissions this value.

Earth Leakage

The Earth leakage function should be set to ENABLED.

The thresholds for fault reporting are preset.

Confirm correct operation of speaker circuits

Wait at least 100s and confirm no faults are reported. If faults are reported then re-check speaker line impedances and resistances.

Configure local inputs

Via **System/Router/Inputs** Menu: Programme any input sources used to support local microphones or other audio sources.

Configure buttons for local microphone

Via **System/Router/Inputs Menu** Programme the required button operation.

Configure any local permanent routes

Via **System/Router/Ctrl** menu set up any permanent routes needed for background music functions

Configure any remote I/O on the RS485 bus

Via **System/Router/Ctrl/Remote Menu** set up the addresses and types of units on the RS485 bus.

Configure the functionality of remote I/O ports

Via **System/Router/Ctrl/Remote** menu set up the specific required functions of the I/O ports

Programme DVA (Message) triggers via Contacts

Via **System/Router/Ctrl/Contacts/Zoning** and Control Menus set the required zoning of DVA messages and the control method, i.e latched or non-latched, play 'full' or 'part'.

Programme DVA (Message) triggers via Loop Interface

Via **System/Router/Ctrl/Remote** Menu select the Loop Interface then use the Zoning and Control Menus to set the required zoning of DVA messages and the control method, i.e latched or non-latched, play 'full' or 'part'

Set local priorities

Set the priorities of the local sources via **System/Router/Inputs** menu, choose the input from either the Mic/Line or DVA sub-menu and set its priority.

Set Output Mapping

Via **System/Frames/OpMap** menu set the mapping of amplifier slot against outputs.

For example, in a single zone configuration, if output-1 just feeds slots 1 and 3.
Set:

- ☐ Slot#1-Output1
- ☐ Slot#2- Not-Conf
- ☐ Slot#3-Output1
- ☐ Slot#4-Not Conf

Any faults on the amplifiers in slot#1 and 3 will then report back via the fire loop interface as being on output-1.

Programme the zone names

Via **System/Frames** menu.

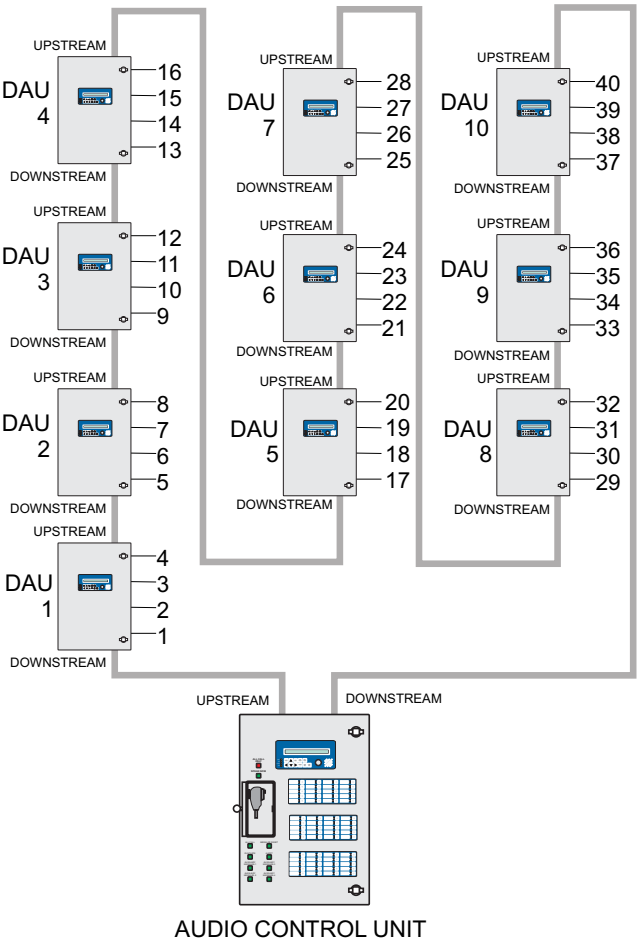
Set unit for network operation

Via **System/Misc** menu Set ASYNC Port to 'Connect to Network'.

Each system node is equipped with a built in network interface with two communications ports.

The ports are identified as UPSTREAM and DOWNSTREAM. The Audio Control Unit normally 'talks' out of it's UPSTREAM port which is connected to the DOWNSTREAM port of the first DAU in the chain. The UPSTREAM port of that DAU is then connected to the DOWNSTREAM port of the following system until a complete 'ring' is implemented back to the Audio Control Unit.

The first DAU is allocated a Unit-ID of 1, the next unit has Unit-ID 2 etc. The diagram below shows the scheme: The outputs from the DAUs then become a contiguous sequence from the Audio Control Unit point of view.
Unit-ID#1 : outputs 1 to 4
Unit-ID#2 : outputs 5 to 8



AUDIO CONTROL UNIT

Via **System/Network** Menu set:

- ☐ Unit Network ID
- ☐ Number of Network Audio Channels
- ☐ DVA (Message) Fallback (defines which DAU DVAs (Messages) act as fall-backs to Network DVAs in the event of Network Failure).
- ☐ Priority (defines the priorities of each Audio Control Unit audio sources at DAU).
- ☐ Name (for reference)

Save the Router configuration

Use the Configuration Tool to upload the Configuration from the router.

The file names should follow the following format:
GENTXXXX_YYY_As_Commissioned.txt
Or
GENTXXXX_YYY_As_Commissioned.txt

GENTXXXX = Job NumberYYY = Identifier of individual DAU in the system.

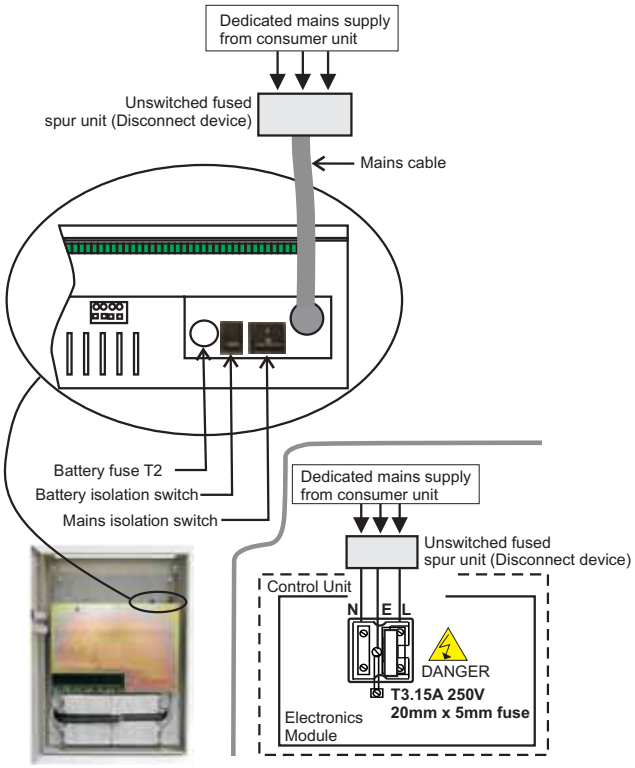
Audio Control Unit (ACU)

Check Earth bonding in the unit

All earth connection points should be clean to provide a good electrical conductivity path. To maintain the earth continuity all earth leads and fittings provided must be installed.

Power up the Unit

Ensure the mains and battery supplies are connected. The two switches located on the top of the electronic module are switched ON.



Establish communication

Establish communications between Router and Amplifier System by performing a SYSTEM LEARN.

Set unit to be networked

Via **System/Misc** Menu set ASYNC Port to 'Connect to Network'.

Set-up Network parameters

see also page 20

If networked set up network parameters via **System/Network Menu:**

☐ Set Unit Network

☐ Number of Network Audio Channels

☐ Priority (defines the priorities of the Slave Node audio sources at the Control)

☐ Name. For reference

Set Audio Recovery

Set to be On or Off as required (if an audio loop is used then set to On) via **System/Router/Misc** Menu

Configure Local Inputs and Integral Microphone

Via **System/Router/Inputs** menu programme any input sources used to support local microphones or other audio sources.

The integral door mounted microphone is connected to Input-1 as a Zone-able Fire Mic.

Programme buttons for Local Microphones and Integral Microphone

Via System/Router/Inputs Menu Programme the required button operation.

Configure any remote I/O on the RS485 bus

Via **System/Router/Ctrl/Remote** menu set up the addresses and types of units on the RS485 bus.

Configure the functionality of remote I/O ports

Via **System/Router/Ctrl/Remote** menu set up the specific required functions of the I/O ports.

Programme DVA (Message) triggers via Contact

Via **System/Router/Ctrl/Contacts/Zoning** and **Control** menus set the required zoning of DVA messages and the control method, i.e latched or non-latched, play 'full' or 'part'.

Set local priorities

Set the priorities of the local sources via **System/Router/Inputs** menu choose the input from either the **Mic/Line** or **DVA** sub-menu and set its priority.

Network System Tests

Establishing and Testing Network Connection

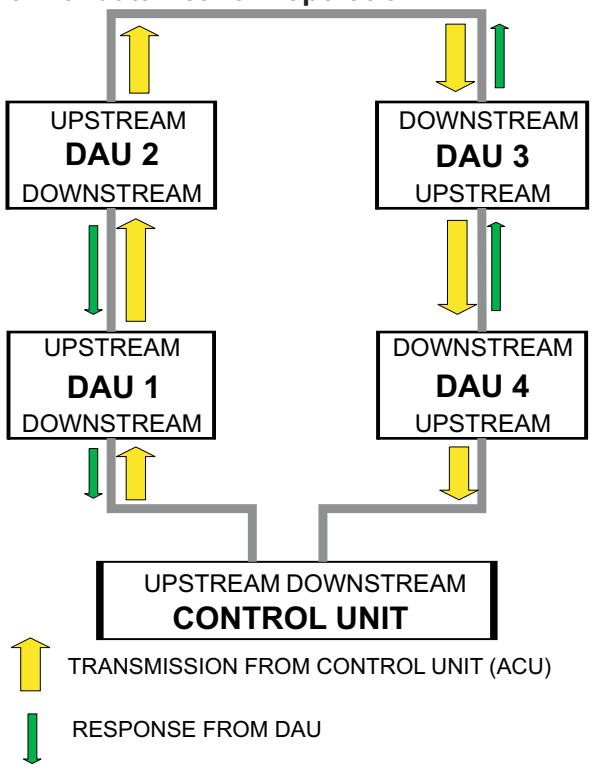
The easiest method is to introduce DAUs onto the network one at a time.

To do this:

- ☐ Set the Network to UPSTREAM only initially.
- ☐ Set Audio Loop Recovery to OFF.
- ☐ The Audio Control Units will then be configured for one DAU and a basic test carried out to ensure that there are no communication faults or audio faults on the DAU.
- ☐ The number of DAUs configured at the Audio Control Unit should then be incremented and communications to each checked, until the whole system is operating.
- ☐ The Network should be set to Bi-directional and Audio Loop Recovery Enabled so the system is then operating as a loop.
- ☐ Check whether the network is operating correctly at each stage, it is important to CLEAR all DAU Faults from the Audio Control Unit and the CLEAR the Audio Control Unit's own faults.

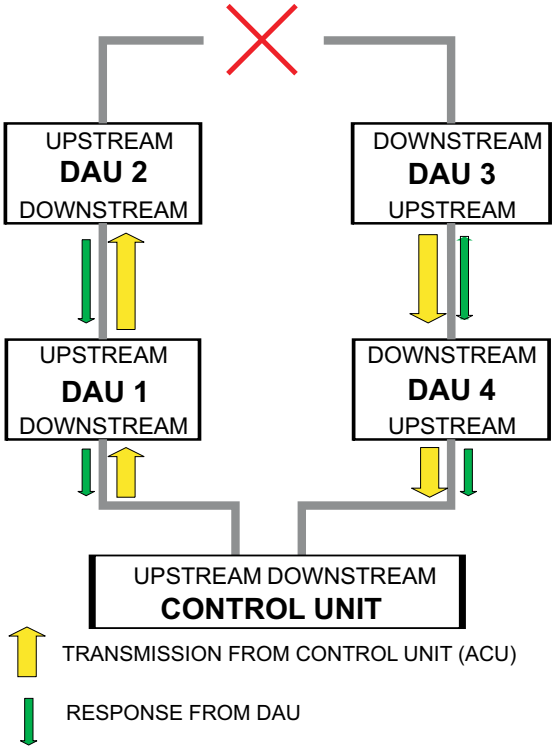
Network Faults - Recovery and diagnosis

Normal data network operation



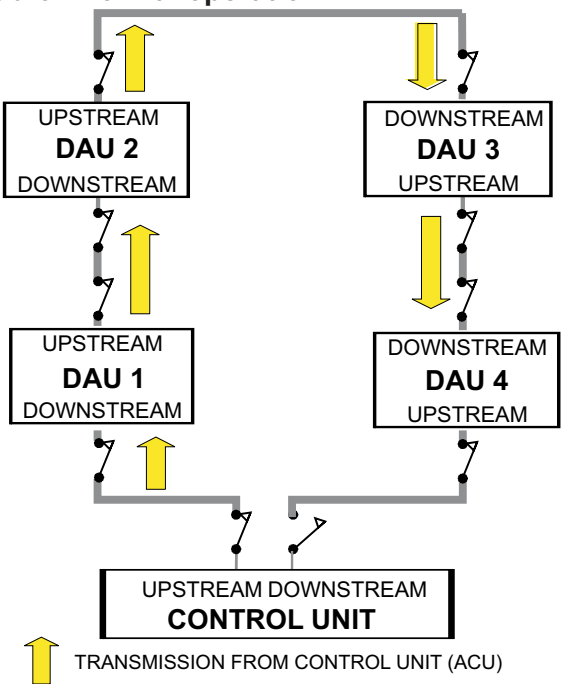
A network operation in a fault free condition. All data originated from the Audio Control Unit is transmitted from the UPSTREAM port and is copied through each DAU until it is received back at the Audio Control Unit. Each DAU replies in the direction from which it receives data.

Data network operation with a fault



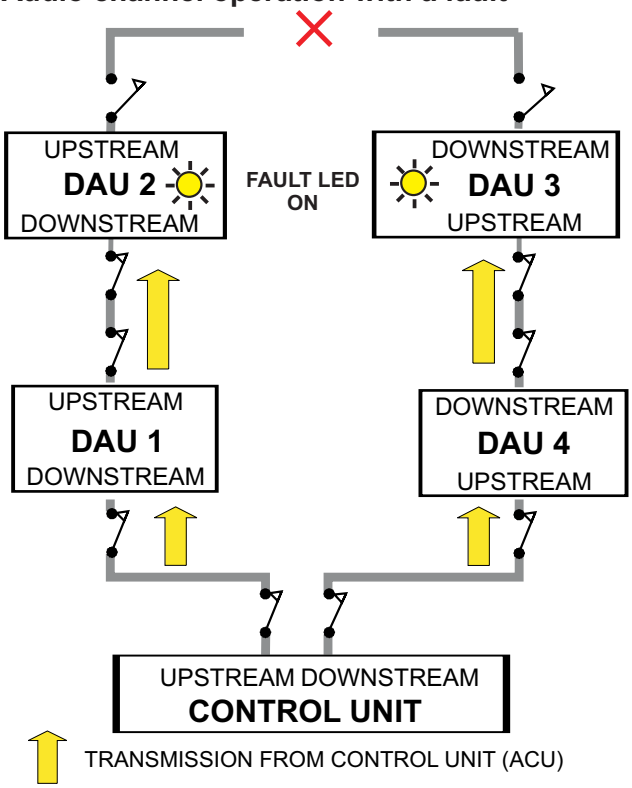
If loop failure occurs, such that the Audio Control Unit fails to see its own transmissions, it transmits in both directions UPSTREAM and DOWNSTREAM.

Audio - normal operation



The operation of one Audio channel in a fault free condition. The audio is transmitted from the UPSTREAM port. The audio passes though each DAU, un-buffered. Each DAU merely taps off the audio.

Audio channel operation with a fault



The audio bus has a 30Hz surveillance signal superimposed on the normal VA audio. This surveillance tone is monitored at each DAU.

Because the audio bus is un-buffered at each DAU, a short circuit will cause complete failure of the ring and cause all DAUs to report failures. An open circuit will cause only DAUs downstream of the fault to report faults.

As soon as any audio faults are reported the system goes into fault recovery sequence which, in essence, isolates the DAUs at each side of a potential cable fault until the fault is pinpointed. Once this is done the faulty segment remains isolated and the audio is transmitted in both UPSTREAM and DOWNSTREAM direction.

Test Audio Control Unit Paging microphones

Using the Audio Control Unit, select each zone in turn and confirm correct operation and intelligibility at each zone.

Test Audio Control Unit Message or DVA (Message) Triggers

Using the Audio Control Unit, activate each DVA message in turn and confirm correct operation and intelligibility at each zone.

Check interface to Fire Alarm system is operating correctly

Confirm that is responding correctly with the fire alarm system.

Operate the Alert function from the fire alarm and check for correct message broadcast to all zones. Check audio quality and level in all (or selected*) areas. Note the SPL for information only. Clear the Alert function at the fire alarm and check that message broadcast stops.

Operate the Evac function from the fire alarm and check for correct message broadcast to all zones. Check audio quality and level in all (or selected*) areas. Note the SPL for information only. Clear the Evac function at the fire alarm and check that message broadcast stops.

At this stage, if the network is not running, then the system will play local 'fall-back' DVAs (Messages).

Save configurations

The Audio Control Unit configuration must be saved together with any DAU that have been adjusted during the system level commissioning.

Use the Configuration Tool to upload the Configuration from the router.

The file names should follow the following format:
GENTXXXX_YYY_As_Commissioned.txt
Or
GENTXXXX_YYY_As_Commissioned.txt

GENTXXXX = Job NumberYYY = Identifier of individual DAU in the system

Distributed Amplifier unit - Factory settings

200W-DAU and 400-DAU

Access code	0999
DAU ID	01
Report over-temperature	NO
Maximum temperature	70 degree C
Input type	Unused
Input Gain	-20dB (-30dB Music)
Input Sens	Line
Input Surv	Off
Input Surv Sensitivity	-40
Input Phantom Power	Off
EQ	0dB All bands, HPF=Off
Fade	00
Chime type	Off
Chime level	-10dB
Output Gains	0dB
Name	As channel number
Output level	0dB
EQ	0dB All band
Surveillance mode	Pulsed
Level	-12dB
Override Gain	-30dB
DVA modes	DVA full
Busy Indication	On
Fault contacts	Normally energised

Outputs 1 to 4	4-100V speaker circuits
Inputs 1 & 2	Not configured
Inputs 3 & 4	Not configured
Input 5	Not configured
Output Expand 1 to 4	Not used
Analog Inputs 1 to 8	Not configured
Fault relay	Normally energised
RS485	Baud 9600
RS232	Baud 9600

To Restore Defaults

Set DIP Switch-4 to ON.

Power On with the above setting selected to clear the whole configuration in the non-volatile memory and restore the above default settings.

This will only take a couple of seconds. The display indicates when this process is complete.

Power off and restore the DIP switch settings for normal operation.

Other defaults

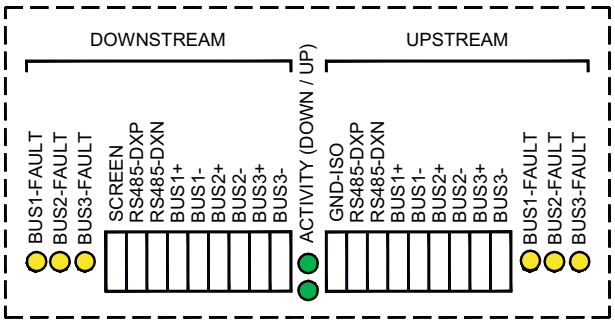
DVA1 - Evacuate message	male voice *Attention tone: Nee Naw Message: "Attention please, attention please, this is an emergency, please leave the building by the nearest available exit. Do not use the lifts or escalator."*
DVA2 - Alert message	female voice *Attention tone: Pulsede Message: "Your attention please, the fire alarm has been activated in another area, please remain where you are and await further instructions."*
DVA3 - Test Start message	female voice *Attention tone - Bing Bong* *Message: "Attention please, attention please, this is the test of the fire and voice alarm system, there is no need to take any action."*
DVA4 - Test End message	female voice *Attention tone - Bing Bong* *Message: "The test of the fire and voice alarm system has now been completed."*
Message priority	TBA

Audio Control Unit - factory settings

Access code	0999
Zone buttons	No configuration
Evacuate message	male voice *Attention tone: Nee Naw* *Message: "Attention please, attention please, this is an emergency, please leave the building by the nearest available exit. Do not use the lifts or escalator."*
Alert message	female voice *Attention tone: Pulsed* *Message: "Your attention please, the fire alarm has been activated in another area, please remain where you are and await further instructions."*
Auxiliary 1	female voice *Attention tone - Bing Bong* *Message: "Attention please, attention please, this is the test of the fire and voice alarm system, there is no need to take any action."*
Auxiliary 2	female voice *Attention tone - Bing Bong* *Message: "The test of the fire and voice alarm system has now been completed."*
Auxiliary 3	None
Auxiliary 4	None
Inputs 1 & 2	Not configured
Inputs 3 & 4	Not configured
Input 5	Not configured
Output Expand 1 to 4	Not used
Analog Inputs 1 to 8	Not configured
Fault relay	Normally energised
RS485	Baud 9600
RS232	Baud 9600

Diagnostic Tools and Methods

Hardware



The following indicators are available for both UPSTREAM and DOWNSTREAM ports.

Indicator	Function
ACTIVITY	Indicates any data activity on the RS485 port, transmission or reception
BUS1-FAULT	Illuminates if the DAU has isolated audio bus-1 because of a fault
BUS2-FAULT	Illuminates if the DAU has isolated audio bus-2 because of a fault
BUS3-FAULT	Illuminates if the DAU has isolated audio bus-3 because of a fault

Software

Audio Loop Failure

The fault code displayed by the Audio Control Unit indicates which channel is affected and where the isolation has occurred and is of the form:

NET-Y/XX AUD RECOVERED

Y= Network Audio Channel (1,2,3) on which fault occurred
XX=Address of DAUt where isolation occurred

So if the report was NET-3/01 AUD RECOVERED. This would mean that an audio fault has occurred on Audio Bus-3 between DAUs 1 and 2 and it has been successfully recovered by isolating the faulty segment.

It is also possible to disable the Audio Loop Recovery Mechanism by means of the ROUTER/MISC Audio Loop Recovery Mechanism by means of the ROUTER/MISC menu, which is useful when fault finding and when commissioning a system.

Data Loop Failure

When a data loop failure occurs the following fault code is always reported at the Audio Control Unit:
INT-01 LOOP FAIL

Because the system instantly recovers communications to all DAUs automatically there may be no other fault reports from which one can diagnose the location of the fault.

To facilitate pinpointing of the faults various diagnostic facilities are available in the SYSTEM/NETWORK/DIAGNOSTICS menu.

The technique is as follows:
Select the Set-Tx-Dir facility and change the direction to UPSTREAM ONLY

Then select the DAU-Timeouts facility. This gives a list of DAUs and a count for each which is incremented when the DAU fails to respond to a message from the Audio Control Unit.

If you press SELECT this will clear all counts to zero.

The screen displays the DAU addresses from left to right with a counter underneath each one. The count increments every time the DAU is polled and fails to respond. It can quickly be seen which DAUs are failing to respond. These are on one side of the faulty connection.

Next, select the Set-Tx-Dir facility and change the direction to DOWNSTREAM ONLY

Then select the DAU-Timeouts facility.
Press SELECT to clear the count to zero.

You can then see which DAUs are failing to respond in the other direction. These are on the other side of the faulty connection.

Once the fault is repaired, the Set-Tx-Dir should be returned to Bi-directional. All DAU faults should be cleared via the Audio Control Unit and, finally, the Audio Control Unit faults cleared.

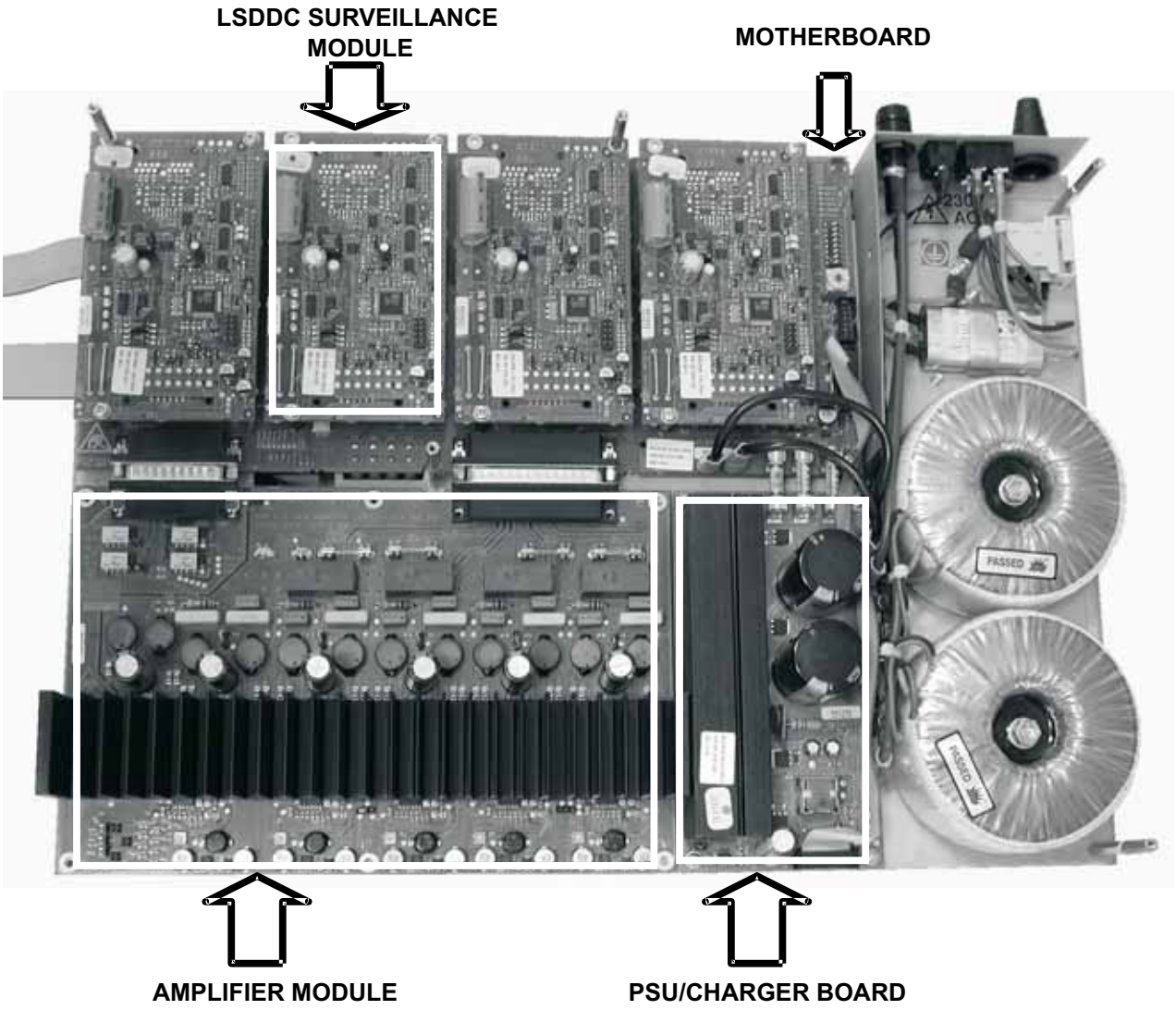
Other diagnostics

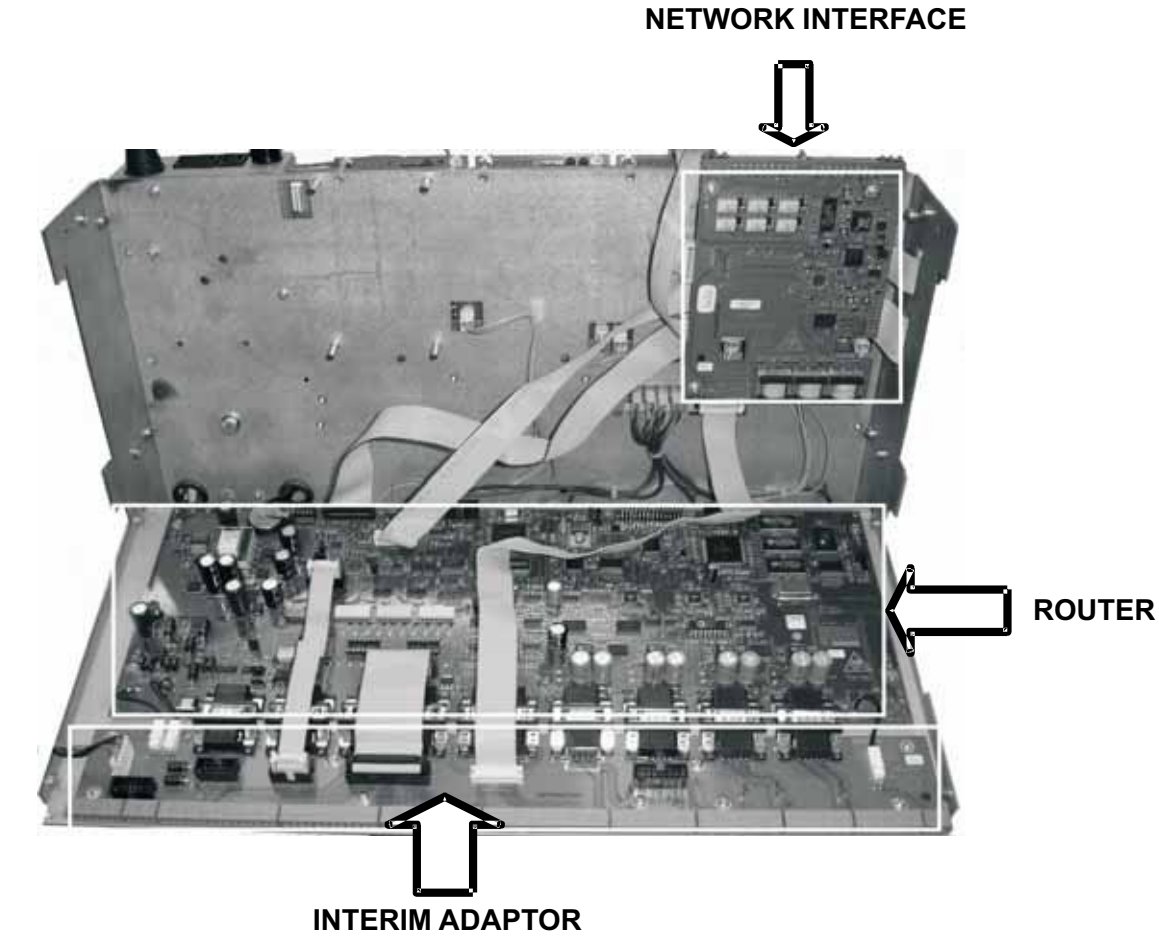
When commissioning a system, it is often desirable to temporarily remove one or more configured units from the poll sequence. This may be to avoid broadcasting audio to them, or to prevent partially commissioned units from swamping the system with faults.

The Poll-ctrl tool enables this to be done. This presents a list of DAU addresses and the facility to set each to either 1 (include in poll loop) or 0 (exclude from poll loop)

Product Assemblies

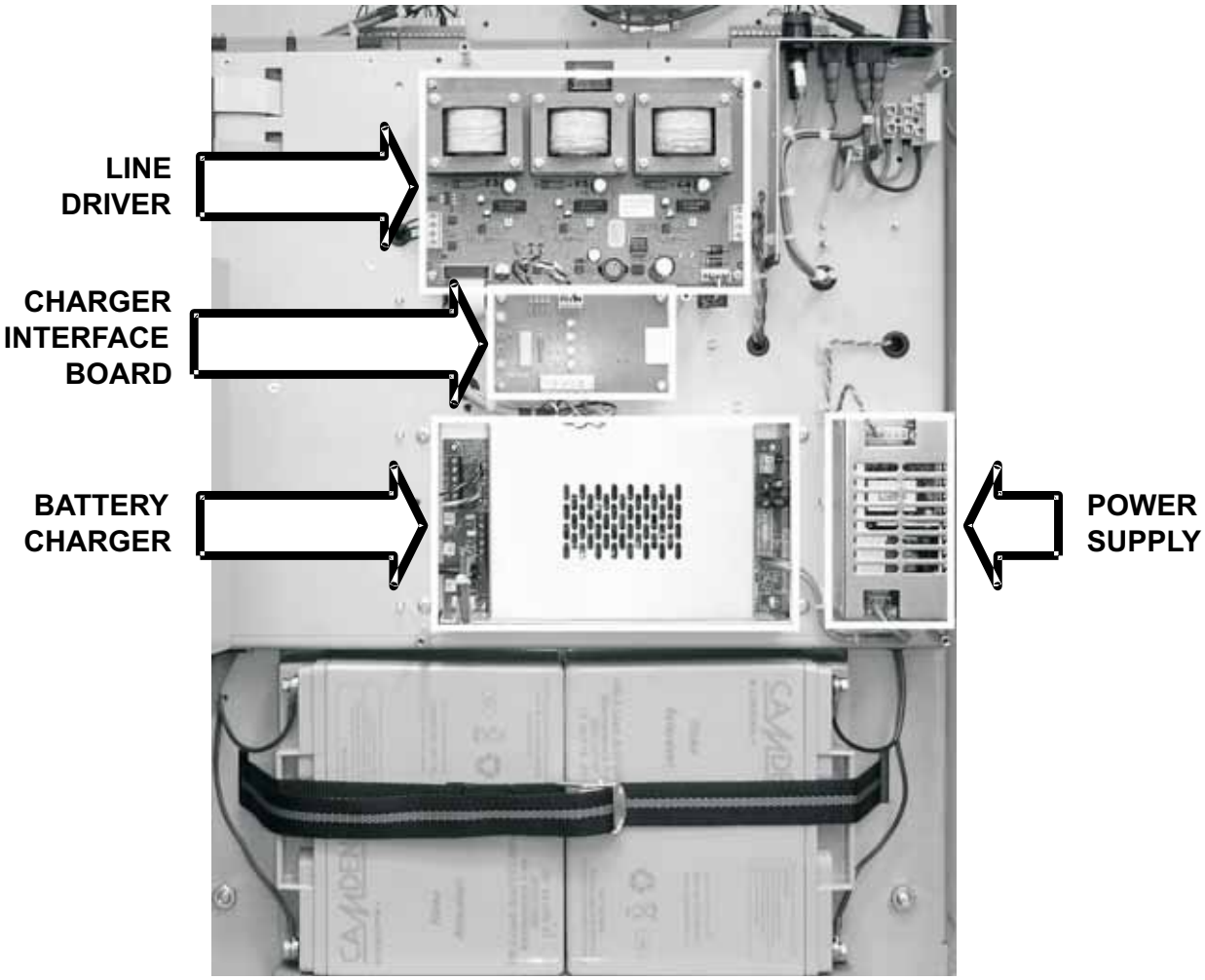
Distributed Amplifier Unit

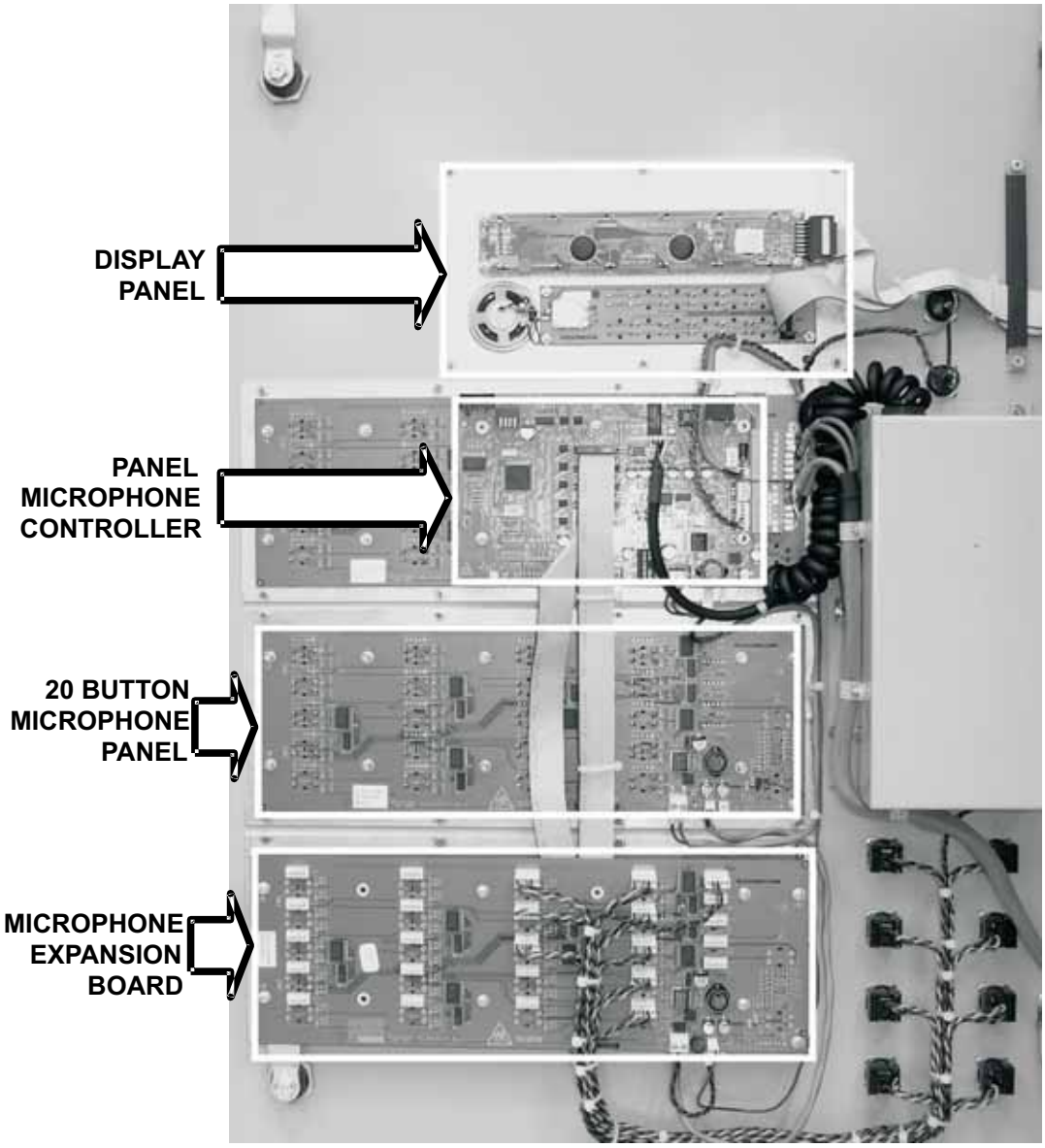


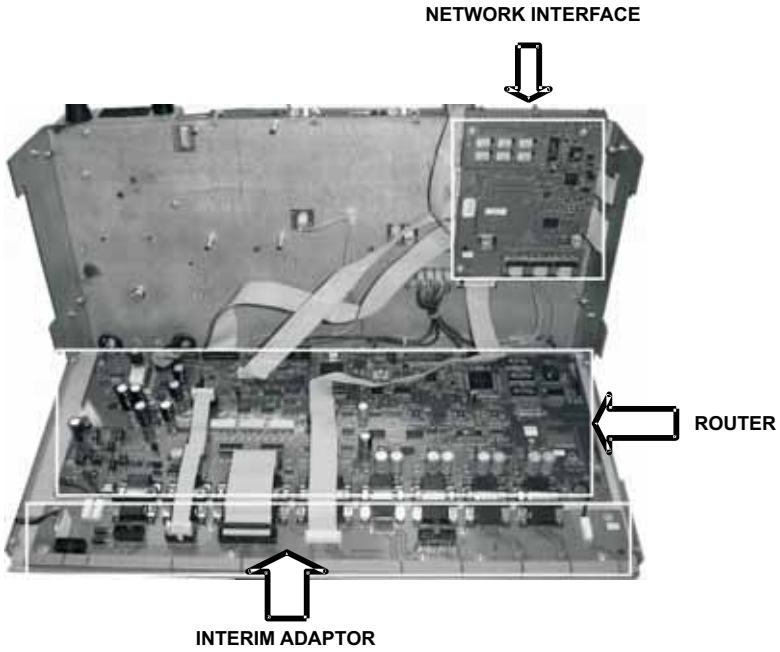

NETWORK INTERFACE
ROUTER
INTERIM ADAPTOR


AUX PSU (DAU-400 ONLY)

Audio Control Unit




DISPLAY PANEL
PANEL MICROPHONE CONTROLLER
20 BUTTON MICROPHONE PANEL
MICROPHONE EXPANSION BOARD


NETWORK INTERFACE
ROUTER
INTERIM ADAPTOR

Notes

Notes

WEEE Directive:
At the end of their useful life, the packaging, product and batteries should be disposed of via a suitable recycling centre.
Do not dispose of with your normal household waste. Do not burn.

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