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1 Introduction

This document provides details on how to use and install the status display(s) provided with the Pro-Bel Aurora control system.

Section 2 gives an overview of the status display.

Section 3 describes the operation of the status display and the status pages provided.

Appendix A is an installation guide.

Appendix B provides information on any LED diagnostics provided.

Appendix C provides an introduction to tie lines and some of the terminology

2 Overview

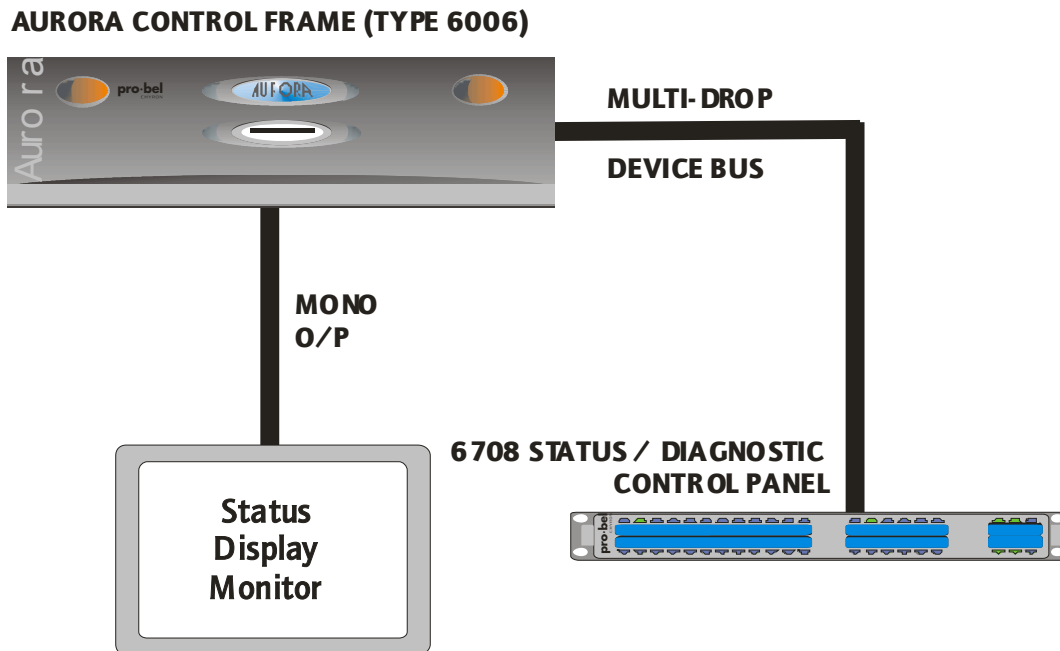
2.1 Introduction

The Aurora status displays are configured to provide an 80 columns wide, black and white video output in either 525 or 625-lines format.

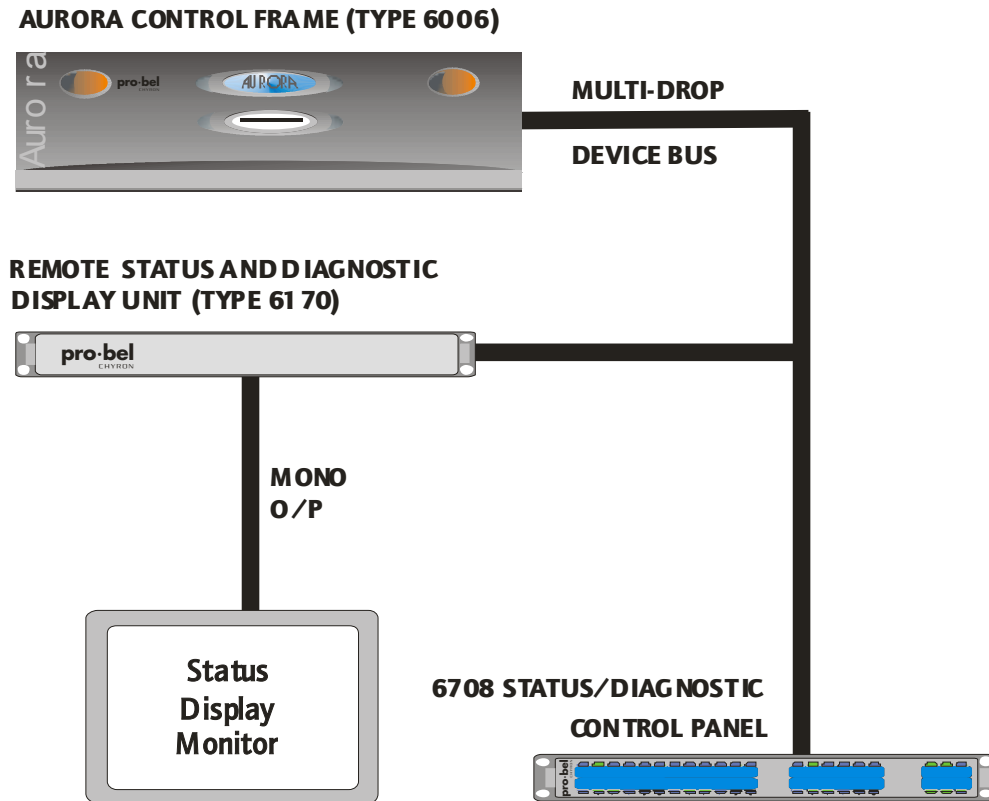
There are two possible status display configurations, either local (from the 2633 main control card located in the Aurora frame) or remote (using 6170 remote Status and Diagnostic Units, RSDU). The RSDU is housed inside a 6170, 1U 19," rack frame. Each status display device has an associated 1U control panel which is used to select the various status pages.

Aurora provides a monochrome video output from the main 2633 control card. The video output is presented at the rear of the controller. The associated control panel connects to the system via one of the multidrop device busses.

The diagram below shows the inter connection.



Up to 4 additional remote status displays can be connected to the Aurora controller using the Remote Status Display Units, see diagram below:



Note that the RSDU does not necessarily need to be connected to the same multi-drop device bus as its associated control panel on the Aurora controller.

The configuration of each status display and its associated control panel is managed from the Aurora Editors.

Refer to Appendix A for a description of how to install a status display.

Each status display provides pages for the following:

- Destination orientated Status information.
- Source orientated Status information.
- Tie line Status information.
- Matrix Diagnostic information.
- Panel Diagnostic information.



2.2 Destination Orientated Status Information

The destination orientated status information pages provide the following:

- Source routed information on all matrices in the system.
- Up to 6 levels can be viewed at the same time. The selection of levels and the order in which they are displayed is user configurable.
- PROTECT and TIE LINE status information.

Whilst destination orientated status information pages are active the following functions are also provided:

- The ability to protect/unprotect a selected destination.
- The ability to protect a source routed and transfer them to the Source Orientated Status page to find out the usage of that source.

2.3 Source Orientated Status Information

The source orientated status information pages are used to find out which destinations are using a source.

The source may either be one of a group of sources transferred from one of the Destination Orientated Status information pages or part of a source association dialled up using the source keypad on the 6708 control panel.

2.4 Tie Line Status Information

The tie line status information pages provide the following:

- The use of tie lines going into any matrix in the system.
- The ability to clear either single or all destinations, which are using a selected tie line, by routing a safe source to them.

2.5 Matrix Diagnostic Information

The matrix diagnostic information page provides port and module fault indications.

2.6 Panel Diagnostic Information

The panel diagnostic information page provides information about the system, indicating expected devices that are not detected and unexpected devices that are detected.

2.7 Configuration Options

This section describes the configuration options available from the Aurora editors for a status display unit and associated control panel.

2.7.1 Status Display Unit

The following configuration options are available from the Aurora configuration editors.

- Show 4 or 8 character names
- Internal or External device
- Use 525 or 625 lines

The default for these options is 625-lines format and 8-character names.

Configuration of these buttons is via radio buttons presented on the edit form for each status display.

2.7.2 Status Display Control Panel

The following configuration options are available from the advanced tab of the status display control panel form.

- Enable/Disable Protect Key
- Enable/Disable Tie Line clear
- Master/Normal Panel Mode

The default for these options is Tie line clear and Protect Key Disabled and Normal Panel Mode.

If the "Enable/Disable Protect Key" check box is ticked then the protect key is enabled on the panel.



If the "Enable/Disable Tie Line Clear" check box is ticked then the ability to clear down tie lines is enabled.

If the "Master/Normal Panel Mode" check box is ticked then the panel is set in master panel mode thus enabling the status display panel to cancel a protect on a destination made by another panel.

3 Operation

The following sections describe the operation and functions of the various pages of a status display.

3.1 Introduction

Each status display has a matrix number associated with it. This may be changed either by accessing the Select Matrix page (refer to section 3.3) or by using the numeric keys (see section 3.2) in various sub-modes of the other pages.

When a status display is powered up for the first time, the Select Matrix page (refer to section 3.3) is displayed with the first matrix in the system selected, otherwise, the system attempts to return to the page where a matrix selection was active prior to the power down or reset.

A status display provides 6 basic status page information types:

- Select Matrix Page - This is used to select the matrix for which status information is to be obtained.
- Destination Orientated Status Pages - These pages provide status information i.e. Source routed, protect and tie line status in a destination orientated fashion.

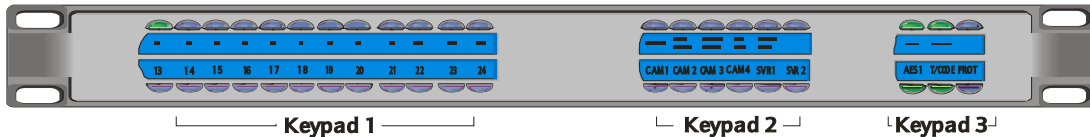
When this type of page is active protects can be set or cleared and tie lines may be cleared down.

- Source Orientated Status Page - This page allows source use to be investigated.
- Tie Line Summary Status Pages - These pages provide a basic summary of tie line information for a matrix.
- Matrix Diagnostics Page - This page provides a list of matrix port and module faults.
- Panel Diagnostics Page - This page provides panel connectivity information.

Further pages are provided to configure the information displayed and give more detailed information about selected items on the above pages.

3.2 Status Display Control Panel

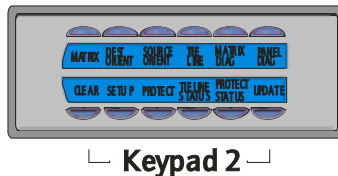
The layout of the 6281 Control panel is given below.



Each of the 3 keypads on the panel perform a different function.

Keypad 1 is a dual function keypad. It is both an editable source keypad and a pre-defined numeric keypad. The keys are numbered 1-24 for numeric entry purposes (see diagram above). The source keypad is defined using the Aurora Editors in the usual way.

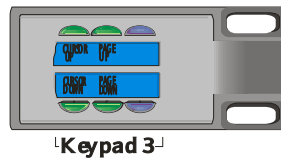
Keypad 2 is a pre-defined function keypad. The layout of this keypad is given below.



The top row of keys is used to switch between the different page types. The different page types are described in the sections following.

The bottom row of keys are used to access the modes and functions within the various page types.


Keypad 3 is a pre-defined function keypad. The layout of this keypad is given below.



3.3 Select Matrix Page

3.3.1 Description

The layout of the SELECT MATRIX page is shown below.

SELECT MATRIX			
01	mmmmmmmmmmmmmmmmmm	11	mmmmmmmmmmmmmmmmmm
02	mmmmmmmmmmmmmmmmmm	12	mmmmmmmmmmmmmmmmmm
03	mmmmmmmmmmmmmmmmmm	13	mmmmmmmmmmmmmmmmmm
04	mmmmmmmmmmmmmmmmmm	14	mmmmmmmmmmmmmmmmmm
05	mmmmmmmmmmmmmmmmmm	15	mmmmmmmmmmmmmmmmmm
06	mmmmmmmmmmmmmmmmmm	16	mmmmmmmmmmmmmmmmmm
07	mmmmmmmmmmmmmmmmmm	17	mmmmmmmmmmmmmmmmmm
08	mmmmmmmmmmmmmmmmmm	18	mmmmmmmmmmmmmmmmmm
09	mmmmmmmmmmmmmmmmmm	19	mmmmmmmmmmmmmmmmmm
10	mmmmmmmmmmmmmmmmmm	20	mmmmmmmmmmmmmmmmmm

KEY: mmmmmmmmmmmmmmmmm = **MATRIX NAME**

This page will only show the matrices defined within the system database.

3.3.2 Page Operation

This page allows the user to view the names of all of the matrices in the system and to select one using the numeric keypad and/or cursor keys.

All of the status display pages, except for the panel Diagnostics page, show information relating to the selected matrix.

Therefore, changing the selected matrix using this page changes the information that is displayed on the other status pages.

Press the <MATRIX> key to select the SELECT MATRIX page. The LED in the <MATRIX> key on the associated status display control panel will light to indicate that the SELECT MATRIX page is active as well as the LED in the numeric keypad corresponding to the currently selected matrix.



	association is protected
	B = both of the above = none of the above
M	Marriage indication * = source routeds are unmarried = source routeds are
S	Source diagnostic
	T = source routed is a downstream source of a tie line
	U = source routed is an upstream = source of a tie line
	P = this level is protected
	B = source routed is either a downstream source or an upstream source of a tie line and this level is protected
	= none of the above
PG UP	Use the <PAGE UP> key to access the page (s) before this one
PG DN	Use the <PAGE DOWN> key to access the page(s) after this one

3.4.1.2 Basic Page Operation

Press the <DEST ORIENT> key to select the first Destination Orientated Status page for the selected matrix. The LED in the <DEST ORIENT> key will light to indicate that a destination orientated status page is active as well as the LED in the numeric keypad corresponding to the selected matrix.

The primary function of these pages is to allow the user to examine the source routed on up to 6 levels of a matrix.

Each matrix in the system has its own specific levels setup, which is configured from the Destination Orientated Setup page.

The format of the Destination Orientated Status page is determined by this levels setup. If the selected matrix only has one level then single level Destination Orientated Status pages are used. If the selected matrix has two or more levels then multi-level Destination Orientated Status pages can be used.



3.4.1.3 Selecting a Matrix

To display the source routed information on a matrix, press the numeric key corresponding to that matrix.

Pressing a numeric key selects the matrix corresponding to the key and displays the first Destination Orientated Status page for that matrix. The LED in the numeric key will illuminate to indicate the selected matrix.

3.4.1.4 Selecting a Destination Association

The name of the selected destination association is highlighted in inverse video. The cursor and page keys can be used to step through the list of destination associations and select one. This is used for the EXTENDED PAGE OPERATION.

3.4.1.5 Changing the Levels setup

Press the <SETUP> key to select the Destination Orientated Setup page. Refer to the section which describes the Destination Orientated Setup page.

3.4.2 Extended Page Operation

3.4.2.1 Protecting a Destination Association

First select the required destination association using the cursor and page keys.

Now, press the <PROTECT> key to protect/unprotect ALL of the levels of the selected destination association.

The Status Display Control panel can be configured from the Aurora Editors to be either a master or a normal panel.

A master panel has no limitations on what it may protect/unprotect.

A normal panel is limited to protecting unprotected outputs or unprotecting outputs that it protected.

3.4.2.2 Transferring Sources

To examine all of the destinations that a source is routed to, first of all select a destination association that the required source is routed to, using the cursor and page keys.

Now, press the <SOURCE ORIENT> key. The Source Orientated Status page is displayed with the source routeds on ALL levels of the selected destination association.



In effect, the source routeds for the selected destination association have been transferred to the Source Orientated Status page.

If there are no valid source routeds on any levels of the selected destination association then no sources are transferred.

3.4.2.3 Displaying Protect Information

Press the <PROTECT STATUS> key to display protect information. The LED in the <PROTECT STATUS> key will light to indicate that protect status is being displayed. If any displayed level of a destination association is protected then the source routed name, for that level, is overwritten with the name of the panel which is protecting that level.

To return to the normal source routed display, press the <PROTECT STATUS> key again.

3.4.2.4 Displaying Tie Line Information

Press the <TIE LINE STATUS> key to display tie line information. The LED in the <TIE LINE STATUS> key will light to indicate that tie line status information is being displayed.

If the destination for a displayed level of a destination association is an upstream tie line destination then the source routed name, for that level, is overwritten with the name of the tie line which the destination is part of. Because tie line names are 16 characters long, the display alternates between displaying the first and second set of 8 characters.

To return to the normal source routed display, press the <TIE LINE STATUS> key again.

3.5 Destination Orientated Status setup page

3.5.1 Description

The Destination Orientated Status Setup page allows the user to configure the levels setup for each matrix in the system.

The levels setup determines the format of the Destination Orientated Status pages



The layout of the Destination Orientated Setup Setup page is shown below

DESTINATION ORIENTATED STATUS		pro-bel <small>CHYRON</small>
MATRIX		
mmmmmmmmmmmmmmmmmm		
LEVELS AVAILABLE		
IIIIIIII	IIIIIIII	IIIIIIII
IIIIIIII	IIIIIIII	IIIIIIII
LEVELS SELECTED		
IIIIIIII	IIIIIIII	IIIIIIII

KEY

- mmmmmmmmmmmmmmmmmm name of the currently selected matrix
- IIIIIIII the name of a level on the currently selected matrix

3.5.2 Page Operation

This page allows the User to select up to 6 levels which will be displayed on the Destination Orientated Status pages.

The levels setup is stored for each matrix. The default levels setup is levels 1 to 6 selected.

The levels setup is stored in battery-backed RAM so that the system “remembers” any changes that are made to the levels setup.

The order in which the levels are selected determines the order in which they are displayed on the Destination Orientated Status pages.

The number of levels selected determines the format of the Destination Orientated Status pages. If one level is selected then single level Destination Orientated Status pages are used. If two or more levels are selected then multi level Destination Orientated Status pages are used.

From the destination orientated status page press the <SETUP> key to select destination orientated status setup page. Both the LEDs in the <DEST ORIENT> and <SETUP> keys will light to indicate that the setup page is active. Also an LED on the



numeric keypad will be lit. This indicates either the currently selected matrix or level depending on where the matrix name or levels selected fields are highlighted in inverse video.

This page had two modes of operation: selecting a matrix and editing the levels setup.

3.5.2.1 Selecting a matrix

Press one of the cursor keys until the matrix name field on the display is highlighted in inverse video.

Press a numeric key on keypad 1 of the control panel corresponding to the required matrix. The matrix name appears in the matrix name field on the display. The LED in the associated numeric key for the selected matrix will also light.

3.5.2.2 Selecting a Level Field

Select the required matrix.

Select the level position to change by pressing one of the cursor keys until one of the level field names is highlighted in inverse video. Press the <SETUP> key until the required level field is highlighted in inverse video. The LED on the numeric keypad associated with the currently selected level will be lit.

3.5.2.3 Clearing a level

Select the level field that needs to be cleared.

Press the <CLEAR> key to clear the level. There must always be at least one level selected. If there is only one level selected then the <CLEAR> key is disabled. All LEDs on the numeric keypad will be turned off.

3.5.2.4 Changing a Level

Select the level field that needs to be changed.

Select the required level by pressing the appropriate numeric key on keypad 1 corresponding to the level. The LED in the associated numeric key for the selected level will also light.

3.5.2.5 Return to Destination orientated Status page


Press the <DEST ORIENT> key to return to the destination orientated status page. The <SETUP> key LED will be turned off.



3.6 Source Orientated Status page

3.6.1 Description

The layout of the Source Orientated Status page is shown below.

	
Update	DESTINATION ORIENTATED STATUS
MATRIX	mmmmmmmmmmmmmmmmmmmmmmmm PRESELECT ppppppppp
SOURCES	01 ssssssssR 02 ssssssssR 03 ssssssssR 04 ssssssssR 05 ssssssssR 06 ssssssssR 07 ssssssssR 08 ssssssssR 09 ssssssssR 10 ssssssssR 11 ssssssssR 14 ssssssssR 13 ssssssssR 14 ssssssssR 15 ssssssssR 16 ssssssssR
LEVEL	11111111 SOURCE ssssssss
SNAPSHOT OF DESTINATIONS	
<pre> ee ee ee ee ee ee ee ee ee ee </pre>	<pre> ee ee ee ee ee ee ee ee ee ee </pre>
PG UP/PG DN	

KEY

- | | |
|----------------------|--|
| Update | Indicates whether the page needs updating or not
= the page is up to date
UPDATE = the page needs to be updated |
| mmmmmmmmmmmmmmmmmmmm | name of the currently selected matrix |
| ppppppppp | If sources have been dialled up then the source preselect characters are shown, otherwise if the sources have been Transferred from a Destination Orientated Status page, "TRANSFER" |
| 11111111 | name of selected level |



sssssssss	name of source on the selected level
ee	name of a matrix, level and destination association that the selected source is routed to
R	local/remote source diagnostic = local source R = remote source
PG UP	use the <PAGE UP> key to access the page(s) before this one
PG DN	use the <PAGE DOWN> key to access the page(s) after this one

3.6.2 Page Operation

Press the <SOURCE ORIENT> key to select the Source Orientated Status page. The <SOURCE ORIENT> key LED will be lit.

This page allows the User to list the destinations that a source is routed to.

This page is a snapshot display and is only updated when the User requests it.

This page has 3 modes of operation; selecting a matrix, dialling up a source preselect and selecting a level.

The cursor keys are used to switch between the different modes. The field being edited is highlighted in inverse video. An LED in the numeric keypad may be lit indicating the currently selected matrix or level depending on which field is active.

3.6.2.1 Selecting a Matrix

To select a matrix, first use the cursor keys to highlight the MATRIX field. The LED in the numeric keypad associated with the currently selected matrix will light.

Press the numeric key corresponding to the desired matrix to select the matrix. This will clear any transferred sources. The LED in the numeric keypad associated with the newly selected matrix will be lit.

3.6.2.2 Dialling up a source Preselect

To dial up a source preselect, first use the cursor keys to highlight the PRESELECT field.

In this mode, the combined source/numeric keypad is a source keypad. This allows a source association to be dialled up in exactly the same way as using a panel.



(Providing a dial up keypad has been configured and assigned to the panel within the editors).

Press the <CLEAR> key to clear the PRESELECT field and then enter the required source.

3.6.2.3 Selecting a level

To select a level, first use the cursor keys to highlight the **LEVEL** and **SOURCE** fields. The LED in the numeric keypad associated with the currently selected level will light.

Press the numeric key corresponding to the desired level and source to select that level and source. The LED in the numeric keypad associated with the newly selected level will light.

Press the <CLEAR> key to clear the LEVEL and SOURCE fields.

3.6.2.4 Taking a Snapshot

If a valid source has been selected then pressing the <UPDATE> key takes a snapshot of the current state of the system and updates the page.

If **UPDATE** appears in the top left-hand corner of the page, (the LED in the <UPDATE> key will also be lit), then it means that the snapshot information may be out of date. Press the <UPDATE> key to refresh the page. The update required indication will be turned off.



3.7 Tie Line Summary page

3.7.1 Description

The layout of a Tie Line Summary page is shown below.

Update		TIE LINE SUMMARY				
MATRIX mmmmmmmmmmmmmmmmmmm						
TIE LINE NAME	TYPE	GRP	UPSTREAM SOURCE		TIE LINE USE	
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
tttttttttttttttt	iiii	gg	ssssssssssssssssssssssssssssssss		nnnn	dddddddd
PG UP/PG DN						

KEY

- Update Indicates the page needs to be updated
 - = the page is up to date
 - UPDATE** = the page needs to be updated
- mmmmmmmmmmmmmmmmmmmm name of the currently selected matrix
- tttttttttttttttt tie line name
- iiii tie line type
 - AUTO = automatic tie line,
 - MAN = manual tie line



gg	GROUP NO (used with AES to ANALOGUE AUDIO and ANALOGUE TO AES AUDIO tie lines.) -- = no group 01..99 = Group 01 to 99
ssssssssssssssssssssssssssssssssssss	The names of the matrix, level and upstream source feeding the tie line
nnnn	"0000" to "9999" = the number of destinations using the tie line
dddddddd	The name of a destination association which is using the tie line
PG UP/PG DN	Use the <PAGE UP> key to access the Page(s) before this one or the <PAGE DOWN> key to access the page(s) after this one

3.7.2 Page Operation

Press the <TIE LINE> key to select the first Tie Line Summary page. The <TIE LINE> key LED will light as well as the numeric key LED associated with the currently selected matrix.

This page allows the User to examine a snapshot of the usage of the tie lines coming into a matrix.

A snapshot is taken when the page is displayed and when the <UPDATE> key is pressed (see Updating the Page below).

3.7.2.1 Selecting a Matrix

To display the first Tie Line Summary page for a particular matrix, press the numeric key corresponding to the desired matrix. The LED on the numeric keypad associated with the newly selected matrix will light.

3.7.2.2 Selecting a Tie Line

The name of one of the tie lines on this page is highlighted in inverse video. This is the currently selected tie line.

The cursor keys can be used to select any tie line in the list.



KEY

Update	indicates whether the page needs updating or not = the page is up to date UPDATE = the page needs to be updated
mmmmmmmmmmmmmmmm	name of the currently selected matrix
ttttttttttttttt	name of the currently selected tie line name
ddddddddd	the name of a destination association which is using the tie line
more	indicates whether there are more destinations than can be displayed or not = all destinations are on display MORE = there are more destinations than can be displayed on this page

3.8.2 Page Operation

This page allows the User to examine a snapshot of the usage of a single tie line coming in to a matrix. This page can only be selected when the Tie Line Summary page is active. To select the Tie Line details page press the <Tie Line> key.

The tie line is selected from the Tie Line Summary Page.

There may be up to 8 columns of 8 destinations displayed on this page.

If there are more destinations than can be displayed on a single page then MORE is displayed in the bottom right hand corner of the page.

3.8.2.1 Updating the Page

If UPDATE appears in the top left-hand corner of the page as well as the <UPDATE> key LED being lit, then it means that the snapshot information may be out of date. Press the <UPDATE> key to refresh the page. The update required indications will then clear.

3.8.2.2 Clearing all Destinations

Press the <CLEAR> key to route the safe source, on the appropriate matrix and level, to all of the displayed destinations for the currently selected tie line.



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was reported

prt	The matrix port number
cd	Module number or card number (for CARD diagnostics only)
id	Card id (for CARD diagnostics only) "01 .. "99" = card or module number "I" = input card "C" = crosspoint card "O" = output card
more	Indicates whether there are more diagnostics than can be displayed or not = all diagnostics are on display MORE = there are more diagnostics than can be displayed on this page

3.9.2 Page Operation

Press the <MATRIX DIAG> key to select the Matrix Diagnostics page. The LED in the <MATRIX DIAG> key will light as well as the numeric key LED associated with the currently selected matrix.

This page allows the User to view the matrix diagnostics for the currently selected matrix.

There is one Matrix Diagnostics page for each matrix.

If there are more diagnostics than can be displayed on one page then **MORE** is displayed in the bottom right-hand corner of the page.

The extra diagnostics cannot be viewed until some of the other diagnostics are cleared.

3.9.2.1 Selecting a Matrix

Press the numeric key corresponding to the desired matrix to select the Matrix Diagnostics page for that matrix. The numeric key LED associated with the newly selected matrix will light.



3.10.2 Page Operation

Press the <PANEL DIAG> key to select the Panel Diagnostics page. The <PANEL DIAG> key LED will light.

This page allows the User to view the panel diagnostics.

There is one Panel Diagnostics page.

If there are more panel diagnostics than can be displayed on one page then MORE is displayed in the bottom right-hand corner of the page.

The extra panel diagnostics cannot be viewed until some of the other panel diagnostics are cleared.

It will indicate positions where the controller expects to 'see' panels/UMD's which are missing along with their name. If however the controller 'sees' a panel/UMD on a port where there are no devices assigned, it is reported to the status display as an 'unknown' device.



4 Installation and Troubleshooting

4.1 Introduction

This section gives a step-by-step guide to installing a status display into Aurora. Refer to the Aurora Editors Guide.

4.2 Aurora Editors

- Define a status keypad for the Status Display Control panel (if dial up is required for source orientated display).
- Define a Status Display Control panel, referencing the keypad defined in step 1 above.
- Define either an internal or external Status Display, referencing the Status Display Control panel from step 2 above.
- Allocate the Status Display Control panel to a panel port then drag and drop it onto a device port.
- If the Status Display is an internal type, configure it and leave it in the storeroom.
- If the Status Display is an external type then drag and drop it onto a device port.

4.3 Status Display Unit (6170)

- Make sure that EPROM SP92 is fitted to IC7 and EPROM SP93 is fitted to IC6 on the 2411.
- Set multi-drop address according to device position set up in section 4.2.

Links PL25 to PL30 on the 2411 define the multi-drop address of the status display unit. Set up the multi-drop address of the 2411 using the following table as a guide.

MULTI-DROP DEVICE ADDRESS	LINK POSITION					
	PL30	PL29	PL28	PL27	PL26	PL25
01	down	down	down	down	down	up
02	down	down	down	down	up	down
03	down	down	down	down	up	up
04	down	down	down	up	down	down
05	down	down	down	up	down	up
06	down	down	down	up	up	down
07	down	down	down	up	up	up
08	down	down	up	down	down	down
09	down	down	up	down	down	up
10	down	down	up	down	up	down
11	down	down	up	down	up	up
12	down	down	up	up	down	down
13	down	down	up	up	down	up
14	down	down	up	up	up	down
15	down	down	up	up	up	up
16	down	up	down	down	down	down

All other settings of links PL25-PL30 are invalid and will not be recognised by the Aurora controller.

- Connect the 6170 at the panel port and position defined in the editor.



The status display unit will need a pin swapped RS485 cable to connect to the Aurora controller. The pinout is given below:

AURORA CONTROLLER	FUNCTION	6170 (2411) STATUS DISPLAY UNIT
1	Chassis	1
2	Rx-	8
3	Tx+	7
4	OV	4
5	N/C	5
6	OV	6
7	Rx+	3
8	Tx-	2
9	Chassis	9

- Connect the monitor to the monochrome output on the back of the Status Display Unit.

4.4 Internal Status display

Connect the monitor to the monochrome output on the back of the Aurora controller. The output is presented on a 9 way 'D' type socket with the following pin out:

9 WAY	FUNCTION
1	RED
2	N/C
3	BLUE
4	N/C
5	N/C
6	GREEN/MONO
7	N/C
8	Sync
9	Chassis

4.5 Status Display Control Panel (6708)

- Set up 'Panel Mode' switch on the rear of the 6708 Control Panel as follows:

SWITCH	SETTING
1	1
2	0
3	0
4	0
5	1
6	1
7	1
8	1

- Set up the multi-drop address of the panel using the 'Address' Switch on the back of the panel according to multidrop address set by the editor
- Connect the Control panel at the panel port and position defined above. A 9W pin-to-pin cable will be required to connect the control panel to the Aurora controller.

4.6 Troubleshooting

- Check that the multi-drop address set up on the Control panel is correct.
- Check that the multi-drop address set up on the Status Display Unit is correct. (for external displays)
- Check that the Control panel is connected to one of the Aurora controller's panel ports and not to the back of a Status Display Unit. (for external displays)
- Check that the database has been configured correctly using the Aurora Editors.



5 LED Diagnostics

5.1 Remote Status Display (2411)

The 2411 module has 16 diagnostics LEDs (D1 - D4, labelled 1 - 16), the functions of which are as follows:

LEDS 1 - 8	Indicate 2411 running If the LEDs are cycling backwards and forwards with only one LED lit at any time then the 2411 is running and communication has been established with the Aurora controller If the LEDs are cycling backwards and forwards with all but one LED lit then the 2411 is running but communication has not been established with the Aurora controller.
LEDS 9-12	Indicate binary representation of multi-drop address. LED 9 = LSB, LED 12 = MSB, ON = 1
LED 13	ON = Data transmitted to Aurora controller
LED 14	ON = Data transmitted to Aurora controller
LED 15	Not used
LED 16	Not used

5.2 Status Display Control Panel

See 6700 Series control panel handbook for details of diagnostics provided by the 6708 control panel.

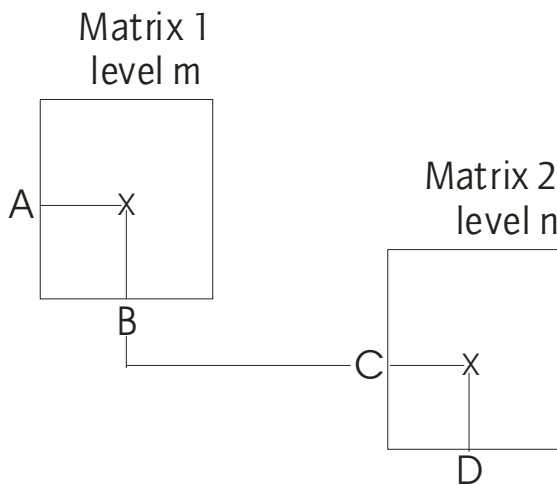
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6 Tie Lines

6.1 Tie Line Terminology

This appendix gives a simple example of the use of Tie Lines and defines some of the terms associated with them.



In the example above:-

A tie line connects destination B (on matrix 1, Level m) to source C (on matrix 2, level n).

Source A (on matrix 1, level m) is routed to destination D (on matrix 2, level n) using the tie line.

Source A is the upstream source.

Destination B is a tie line destination and is at the upstream end of the tie line.

Source C is a tie line source and is at the downstream end of the tie line.

The tie line is busy if source C is routed to one or more destinations.