

Installation Manual

(For Motif Advantage and MotifXL)



Aston Electronic Designs Limited

123/127 Deepcut Bridge Road, Deepcut, Camberley, Surrey, GU16 6SD

Telephone: +44 (0) 1252 836221. Facsimile +44 (0) 1252 837923

E-mail: Service@astondes.com

[http : //www.astondes.com](http://www.astondes.com)

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WARNING

AC VOLTAGES IN EXCESS OF 100V CAN BE DANGEROUS AND EVEN LETHAL UNDER CERTAIN CONDITIONS. TO PREVENT INJURY TO PERSONNEL AND DAMAGE TO THE EQUIPMENT, THE EQUIPMENT MUST BE DISCONNECTED FROM THE AC POWER SOURCE (NOT JUST SWITCHED OFF) BEFORE ANY DISMANTLING TAKES PLACE.

MAINTENANCE MUST ONLY BE PERFORMED BY SUITABLY QUALIFIED ENGINEERS. ALL WARNING NOTICES SHOULD BE OBSERVED.

ENSURE THAT THE AC POWER EARTH CONNECTION IS CORRECTLY MADE.

ALWAYS CHECK THAT THE SUPPLY VOLTAGE SPECIFIED ON THE REAR PANEL LABEL IS CORRECT FOR THE LOCAL AC POWER SUPPLY VOLTAGE AND THAT THE APPROPRIATE FUSE IS FITTED IN THE REAR CONNECTOR.

THIS DOCUMENT DESCRIBES ROUTINE MAINTENANCE ONLY. FOR FULL CIRCUIT INFORMATION REFER TO THE TECHNICAL MANUAL, WHICH CAN BE PURCHASED AS AN OPTION.

1. Installation

INTRODUCTION

1. The “Motif Advantage” Character Generator is shipped in an outer carton containing a number of smaller cartons. There are also items contained within packing case fillers, and care should be taken to ensure that these are not thrown away.

UNPACKING

2. The contents of the carton (indicated on a packing list) are as follows.

Mainframe Unit (includes rear cards) carton. *This unit is fully year 2000 compliant.*
Keyboard carton.
Keyboard cables.
Disk unit carton.
Printed circuit board (PCB) carton.
Carton containing a Keyboard power supply (when ordered).
Carton containing a Maintenance Manual (when ordered).
Extender Card (when ordered).
Installation and Operating Manuals
Removable disk containing a back-up of the system software.

3. Carefully unpack each carton and check for shipping damage and shortages. Report, without delay, any damage or shortages to Aston Electronic Designs Limited.

WARNING

DO NOT APPLY AC MAINS POWER UNTIL ALL THE PRELIMINARY
ACTIVITIES AND INTERCONNECTIONS HAVE BEEN COMPLETED.
PLEASE OBSERVE THE WARNING NOTICES

PRELIMINARY ACTIVITIES

EMC PRECAUTIONS

Your unit complies with the European Community Directive (89/336/EEC) on Electro-magnetic Compatibility (EMC). To ensure your unit remains compliant after installation please observe the following:-

All multi-way cables should be a high-quality braided type with metal shrouded connectors providing a 360° electrical contact between the cable shields and the Motif chassis.

If the rear EMC panel is removed, ensure that it is re-fitted after installation.

Ensure that the EMC covers (EMCaps) supplied are fitted to all unused multi-way connectors.

Fit 75Ω terminators to all unused BNC connectors except on the Keyboard, where the BNC protective cover should be fitted.

Follow the guidelines in the Maintenance Section carefully when disassembling and re-assembling components of the Mainframe and Keyboard.

Your unit is equipped with a power supply that affords protection against AC mains surges up to 2KV. In order to obtain maximum benefit from this facility care should

INSTALLATION

be taken to route the AC mains cable as far away from any signal or control cable into or out of your unit as possible.

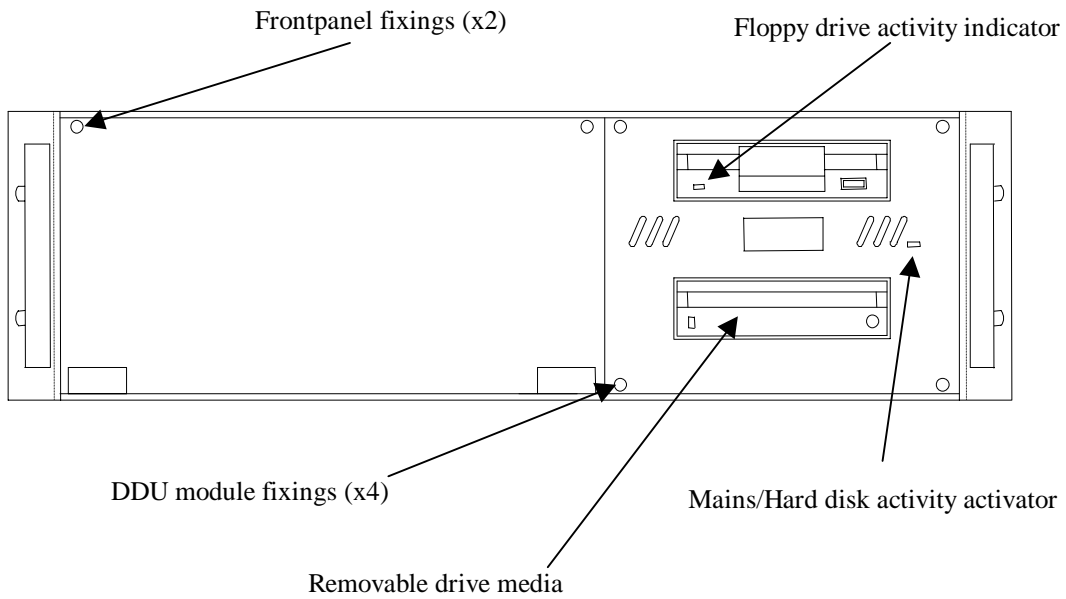


Figure 1-1 Front View of Metrif Mainframe
 Dimensions: 483mm wide, 133mm high, 925mm deep.
 Weight: 15.5kg.

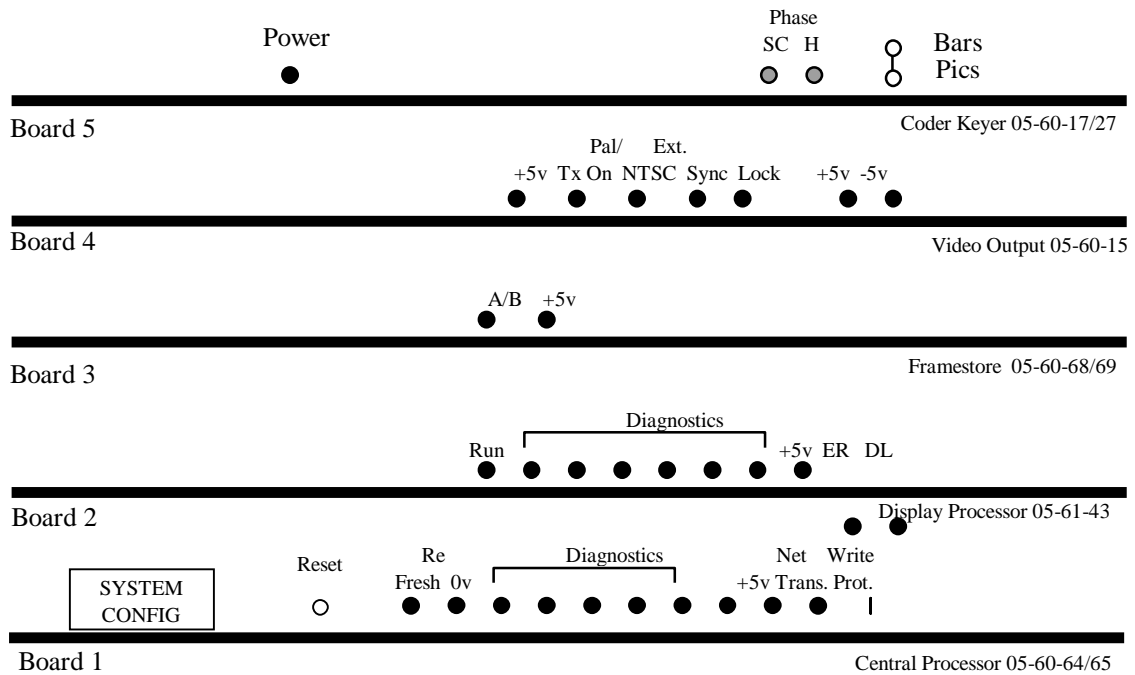


Figure 1-2 Mainframe Front Pcb Locations

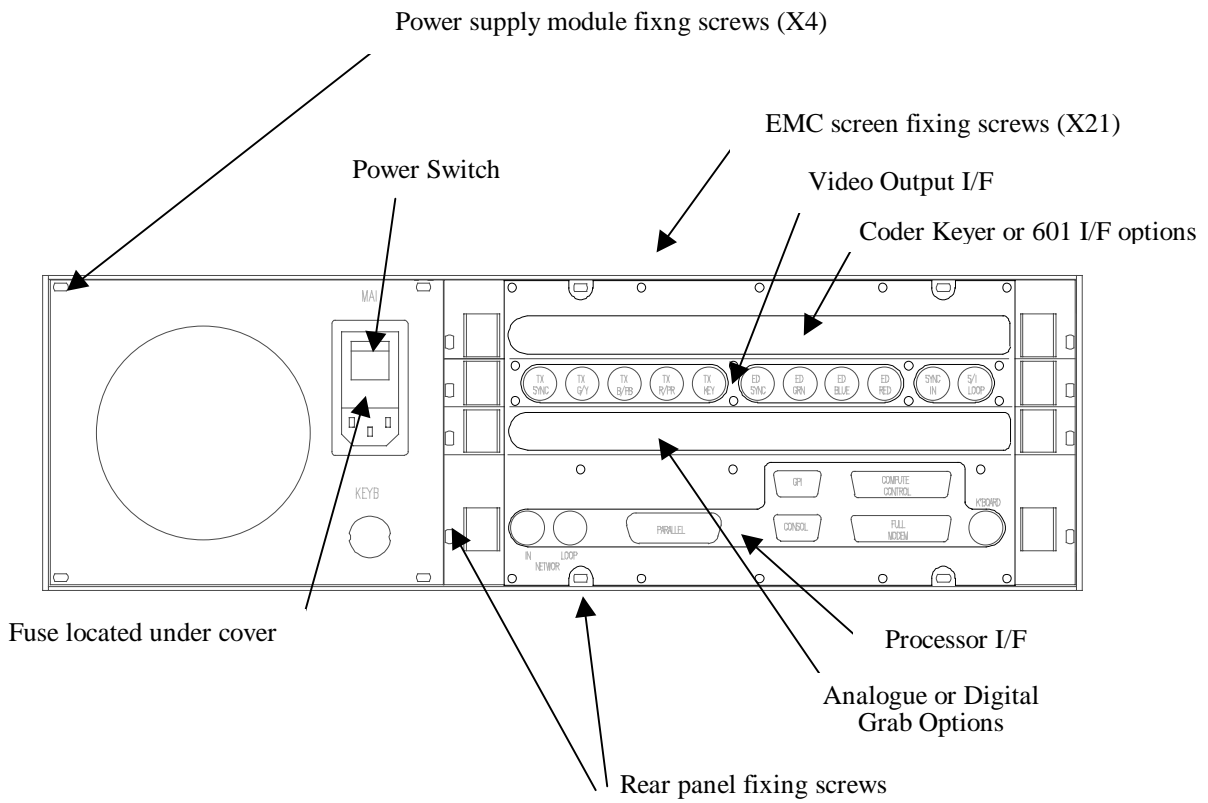


Figure 1-3 Rear View of Motif Mainframe

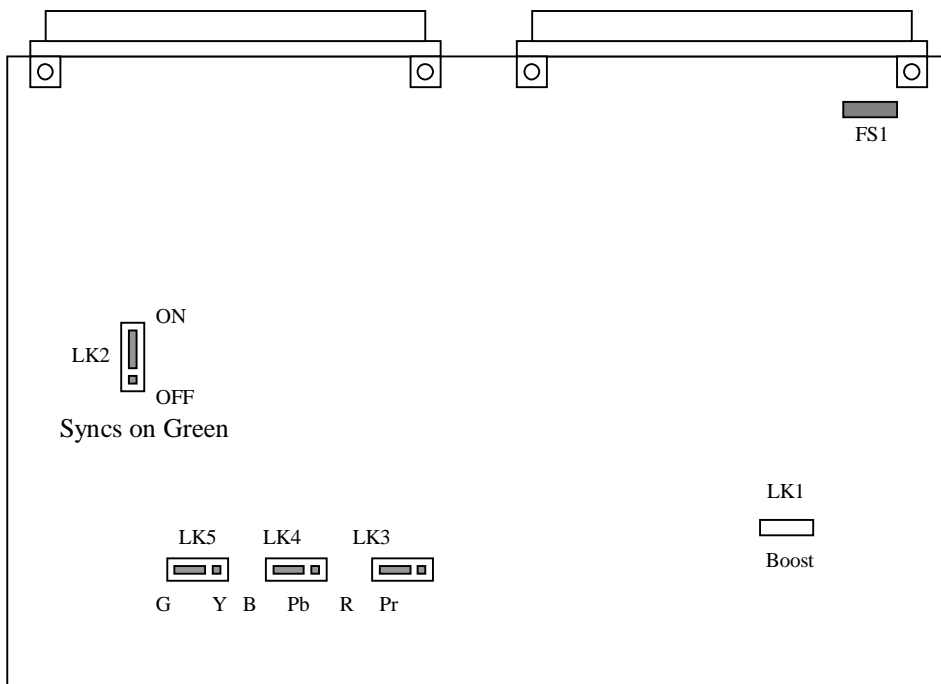


Figure 1-4 Video Output Interface Pcb Links

INSTALLATION

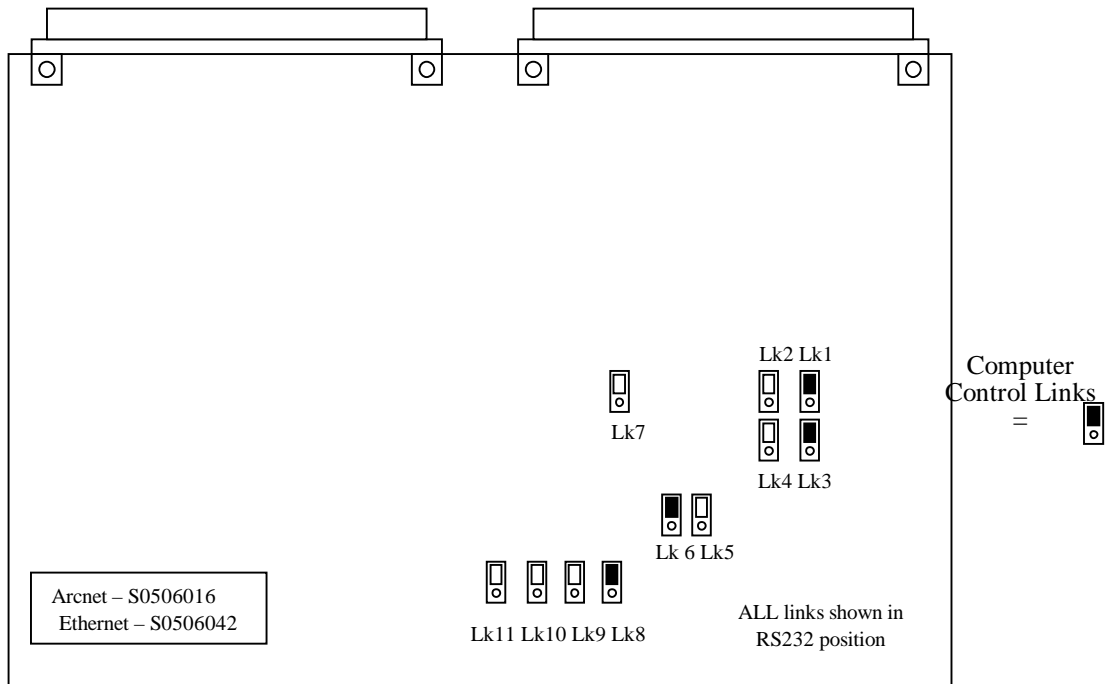


Figure 1-5 Processor Interface Pcb Links (Arcnet/Ethernet)

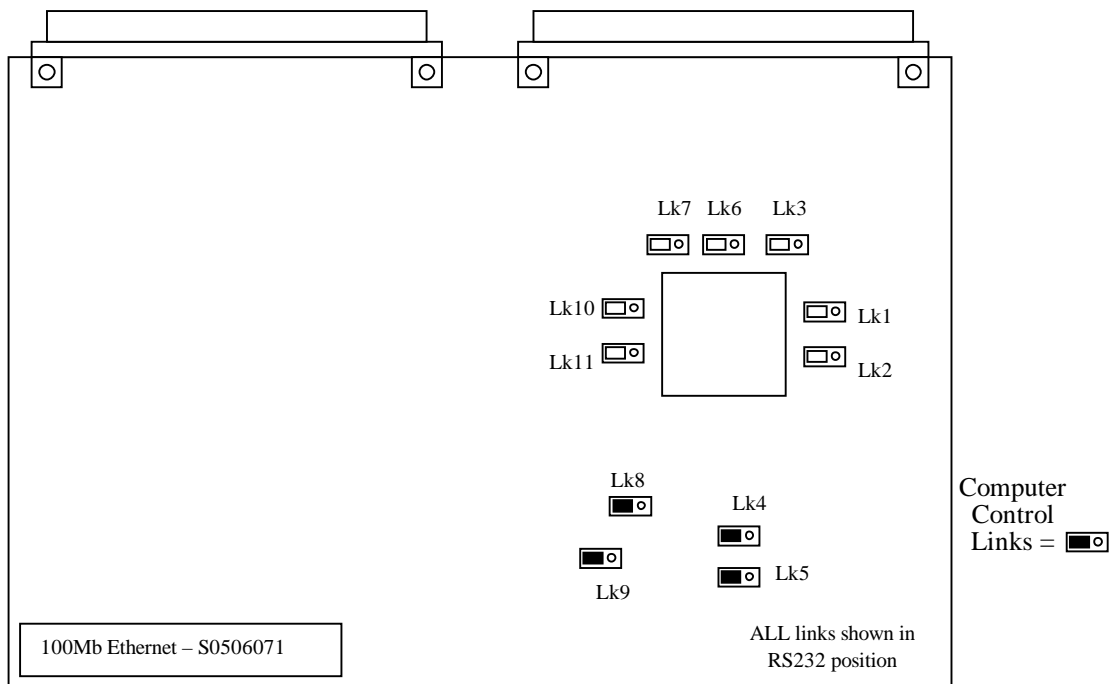


Figure 1-6 Processor Interface Links (100Mb Ethernet)

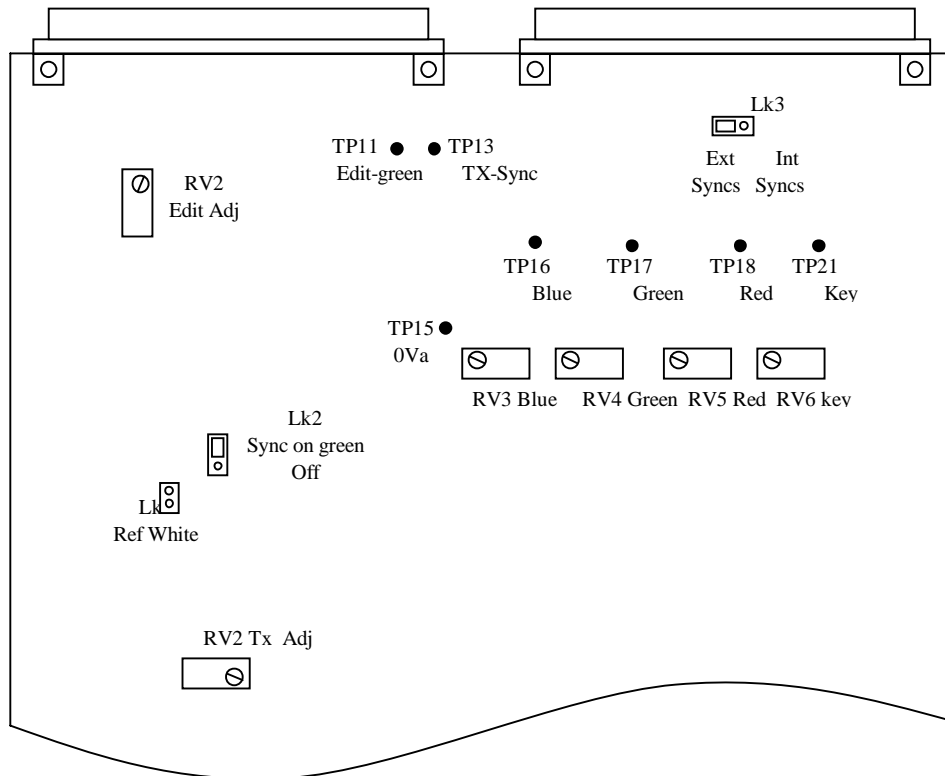


Figure 1-7 Video Output Pcb Links

4. The most convenient way to assemble the Mainframe Unit is on a work bench, to allow easy access. Follow the assembly instructions carefully.

Disk Drive Assembly

5. From the aperture at the right-hand side of the mainframe (Figure 1-1 Front View of Motif Mainframe) gently ease out the two ribbon cables and free power connector; then proceed as follows:-

Plug the smaller 34-way ribbon cable into the back of the floppy disk (upper) drive with the keyway (bump) on the connector corresponding with the cut-out on the PCB.

Plug the middle connector of the 50-way ribbon cable (SCSI) into the back of the removable media hard disc drive and the end connector into the hard disk drive; the receptacles for these two are keyed and so the cables cannot be inserted the wrong way round.

Plug the power connectors together; these are also keyed and cannot be inserted the wrong way round.

Loosen the two screws with chromed surrounds at the top of the wide front panel and hinge the panel downwards. Insert the disk drive assembly in the front right-hand side of the Mainframe Unit by sliding it along the guide rails until the drive unit is fully "home" and then tighten the four retaining screws. The ribbon cables have been pre-formed to fold under the drive unit; make sure that they do.

INSTALLATION

Printed Circuit Boards

6. Before installing the front PCBs, it may be necessary to set internal links to meet your output signal requirements. It may also be necessary to readjust links on the rear PCBs (already installed). Paragraphs 10 to 15 describe the options available.

7. To gain access to the rear PCBs first remove the EMC/legend screen panel by undoing the retaining screws, refer to Figure 1-3 Rear View of Motif Mainframe. When refitting, ensure that the longer screws (M2.5 x 10mm, with shake-proof washers) are used along the top and bottom of the EMC/legend screen panel and the shorter screws (M2.5 x 6mm, with shake-proof washers) are used to fasten it to the rear card panels.

CAUTION

DAMAGE COULD BE CAUSED TO THE PCB ASSEMBLIES IF THE LONG SCREWS (10mm) ARE USED TO SECURE THE EMC PANEL TO THE REAR CARD PANELS.

8. When the links on the front PCBs have been set up, position the PCBs in the Mainframe Unit as shown in Figure 1-2 Mainframe Front Pcb Locations.

Selecting Internal/External Sync Control

9. This is controlled by LK3 on the Video Output PCB (see Figure 1-7 Video Output Pcb Links). The link should be set in the EXT (external) position and the reference sync should be connected to the SYNC-IN BNC of the Video Output Interface PCB. If the Coder Keyer option is fitted, then the link should be moved to the INT (internal) position with the background signal connected (and used as the reference) to the TX-IN BNC of the Coder/Keyer Interface PCB. The machine is despatched with LK3 set to EXT except when the Coder/Keyer option is fitted (LK3 then set to INT).

Selecting Sync-on-Green Output

10. For the Edit display this function is controlled by LK2 on the Video Output PCB (see Figure 1-7 Video Output Pcb Links). If the link is set to OFF there is no sync on Edit green but sync is available on the Edit sync output. If it is ON then syncs are present on Edit green but are then not available on the Edit sync output. The machine is despatched with LK2 set to OFF.

11. For the programme output this function is controlled by LK2 on the Video Output Interface PCB (see Figure 1-4 Video Output Interface Pcb Links; the PCB is at the rear of Mainframe). If the output is to be in GBR form, then the link should be moved to ON for syncs on green and OFF for no syncs on green. If the output is to be in YPBPR form, then the link must be in the OFF position. Remember to adjust the PCBs for both channels, if required. The machine is despatched with LK2 set to OFF (GBR output).

Selecting GBR or YPBPR Component Outputs

12. The selection is controlled by links LK3, LK4 and LK5 on the Video Output Interface PCB (see Figure 1-4 Video Output Interface Pcb Links; the PCB is at the rear of Mainframe). The links should be in the 'G', 'B', 'R' positions for GBR output and in the 'Y', 'PB', 'PR' positions for YPBPR output. Note that the Edit output is always in GBR form. The machine is despatched with the links set for GBR output.

Selecting Sync Boost

13. If the external sync source amplitude is less than 300mV then connect a wire link in LK1 position (boost) on the Video Output Interface PCB (see Figure 1-4 Video Output Interface Pcb Links; the PCB is at the rear of Mainframe). The wire link LK1 is not fitted when the machine is despatched.

Setting Serial Ports to RS232C or RS422

14. The machine is despatched with the links set for RS232C operation. If you need to change a port, gain access to the Processor Interface PCB (see para. 7 and Figure 1-5 Processor Interface Pcb Links (Arcnet/Ethernet) and Figure 1-6 Processor Interface Links (100Mb Ethernet). The bottom card at the rear of the unit) and set the links shown in Figure 1-8 Serial Port Links as listed below. For each port all links must be the same way.

Arcnet Processor I/F – S0506016 and Ethernet Processor I/F S0506042	
Interface	RS232/RS422 Links
Computer Control	LK1, LK3, LK6, LK8
Full Modem	LK2, LK4, LK5, LK7, LK9, LK10, LK11

100Mb Ethernet Processor I/F S0506071	
Interface	RS232/RS422 Links
Computer Control	LK4, LK5, LK8, LK9
Full Modem	LK2, LK1, LK3, LK6, LK7, LK10, LK11

Figure 1-8 Serial Port Links

Keyboard Connections

15. Unpack the Keyboard. For local, single Keyboard operation prepare a suitable length of coaxial cable with a BNC connectors at each end, and connect it between the Mainframe Unit and the Keyboard. Connect the Keyboard power cable supplied between the Mainframe Unit and the Keyboard. Check that the toggle switch on the rear of the Keyboard (see Figure 1-9 Rear View of Keyboard) is set to TERMINATE and the BNC cover is fitted to the unused connector.

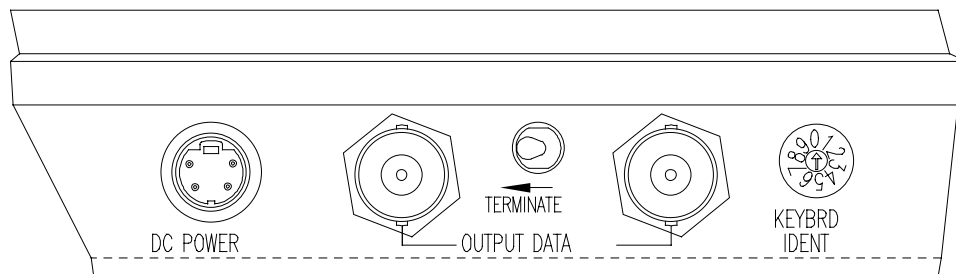


Figure 1-9 Rear View of Keyboard

16. The spacing between the Keyboard and the Mainframe Unit can be up to 300 metres, but if the distance is greater than 10 metres the Keyboard cannot be supplied with power from the Mainframe Unit and the optional Remote Power Supply must be used. The 2 metre long Keyboard power cable (Aston Number S0506009) can be used with either the Mainframe or the optional Keyboard Power Supply; the pin connections are given in Figure 1-10 Keyboard Power Connections
17. When more than one keyboard is supplied, they are connected to the Mainframe Unit in “daisy-chain” form; the coaxial cable is “looped-through” each Keyboard in turn and is terminated at the Keyboard furthest away from the Mainframe Unit. All Keyboards except the one furthest away should have the toggle switches on the rear set away from the TERMINATE position (un-terminated) while the switch on the last keyboard should be set to TERMINATE. Ensure that the protective cover is fitted to the unused BNC connector on the last keyboard in the chain.

INSTALLATION

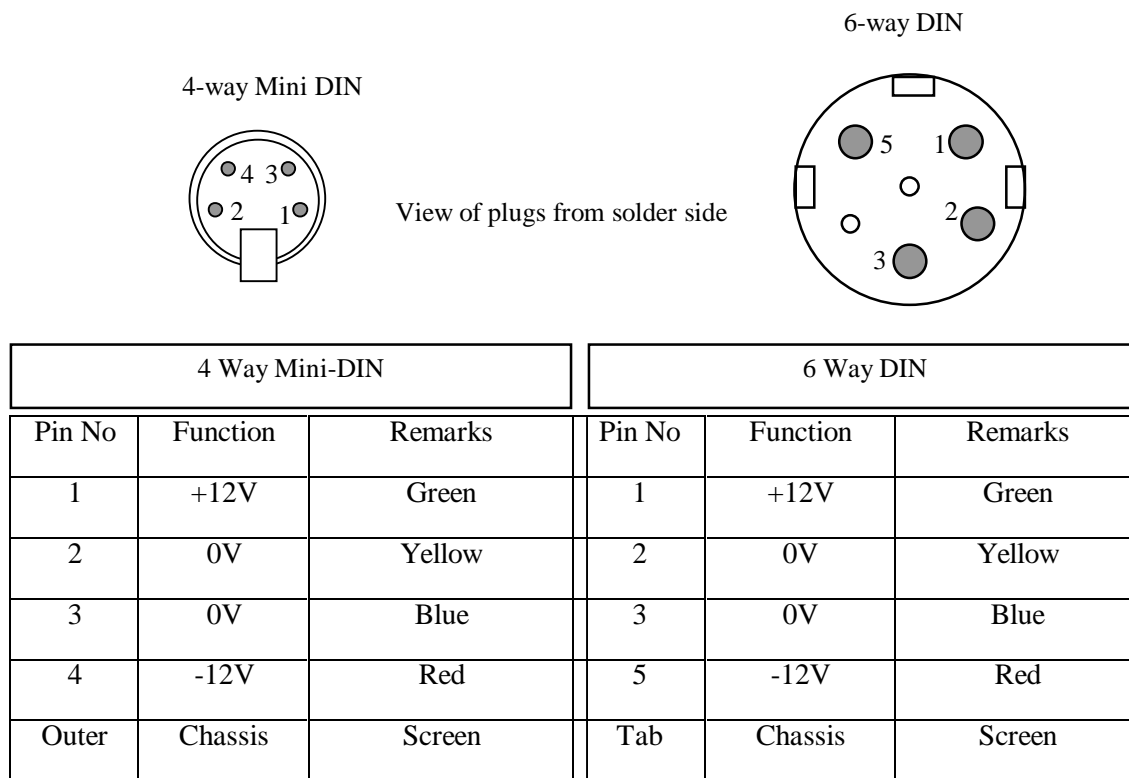


Figure 1-10 Keyboard Power Connections

18. Each Keyboard, when there is more than one, must have a unique identification code to allow the system to operate correctly. The code is set by the digital switch (KEYBRD IDENT) on the rear of the Keyboard. Use a screwdriver to set the switch on each Keyboard to a different number (0 to 9).

EXTERNAL CONNECTIONS

19. Connections to the rear panel are shown in Figure 1-15 Processor Interface connections, Figure 1-16 Video Grab / Digital Output Interface connections, Figure 1-17 Video Output Interface Connections, Figure 1-18 Other Output Interface Connections. Except where multiway connectors are required, standard BNC to BNC 75Ω video cables should be used. Serial digital outputs cannot be “looped-through” but four programme and two key data outputs are provided. Cable lengths up to 300 metres can be used without equalisation (low-loss TV coaxial, e.g. Belden 8281) provided the signal level at the remote end is between 0 and -12dB of nominal (800mV ±10%). Other types of coaxial cable may be used but the performance may differ. Fit 75Ω terminators to unused BNC connectors.
20. Multi-way connections should be high-quality braided-shield type with metal shrouded connectors providing a 360° contact between cable shield and the chassis. Unused multi-way connectors should be fitted with EMC covers.

Network Operation – See Appendix 1 for Installation

21. **Ethernet - 10Base2:** If the Ethernet option has been supplied up to thirty units may be networked over a distance of up to 185 metres (600 ft). The network may be extended by connecting segments via Repeaters - up to 64 nodes can be connected in this way. The Ethos/Motif units are connected using “thin Ethernet” cable type RG58 A/U or RG58 C/U (50Ω with BNC connectors) in a topology as shown in Figure 1-11 Ethernet Topology. The minimum cable length between units should be 0.5 metres; for further information refer to:

International standard ISO/IEC 8802-3 ANSI/IEEE std 802.3 Chapter 10

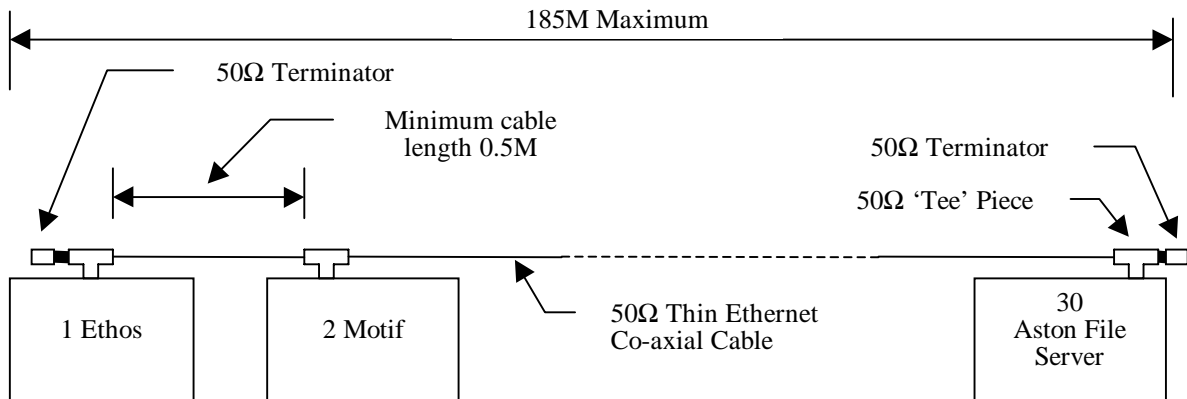


Figure 1-11 Ethernet Topology

22. Arcnet: If the Arcnet option has been supplied up to eight units (all Motif or mixed Motif and Ethos units) may be networked over a distance of up to 300 metres. The Arcnet network may be extended by connecting buses via an active hub; when designing buses connected to an active hub, the hub itself must be connected as one node on each bus - up to 64 nodes can be connected in this way. When using an active hub we recommend that 93Ω cables and terminators are used. Networks of less than 8 units not requiring the use of an active hub and adhering to our recommended network limb length may use 75Ω cable and terminators as shown in Figure 1-12 Arcnet Topology. Note that both ends of the network must have a 75Ω BNC terminator fitted. An Aston File Server unit may be included as a node in the network.

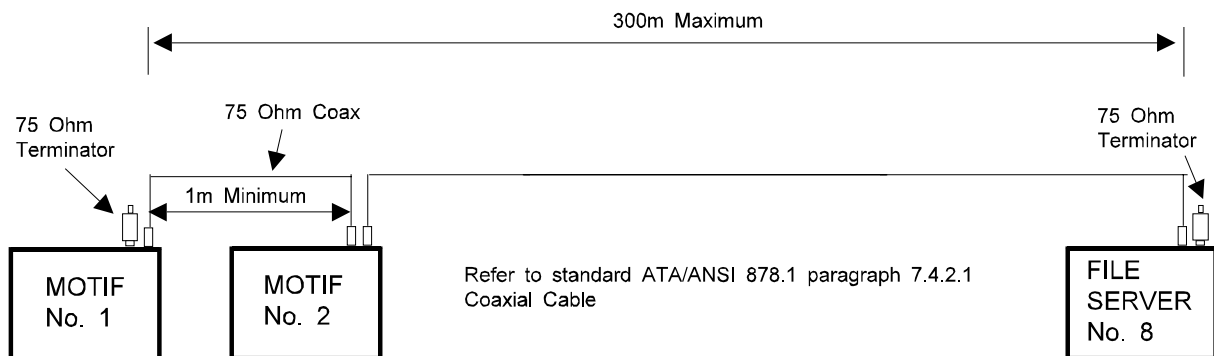


Figure 1-12 Arcnet Topology

INSTALLATION

23. 10/100 Base T Ethernet- Aston No.A06001-104 (Not currently available). Uses a Category 5 (Cat 5) level RJ-45 connector. Use CAT5 or better Unshielded Twisted Pair (UTP) cables. For local area network use up to 63 units can be connected via hubs. Each unit must have a unique network number, see below, and unique Node name, default Node name will be Node [Serial Name]. If only two units are to be connected then a special CAT5 cross-over cable can be used.

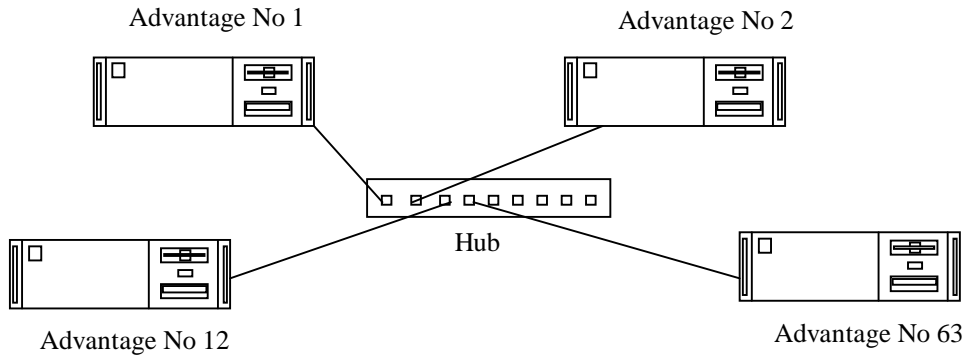


Figure 1-13 100/10Mb Ethernet Topolgy

24. On the Central Processor PCB of each unit set sections 3 to 8 of switch S1 (see Figure 1-14 Switch S1 on Central Processor Pcb) to a unique pattern to identify the unit in the network. For correct operation, no two units can use the same pattern

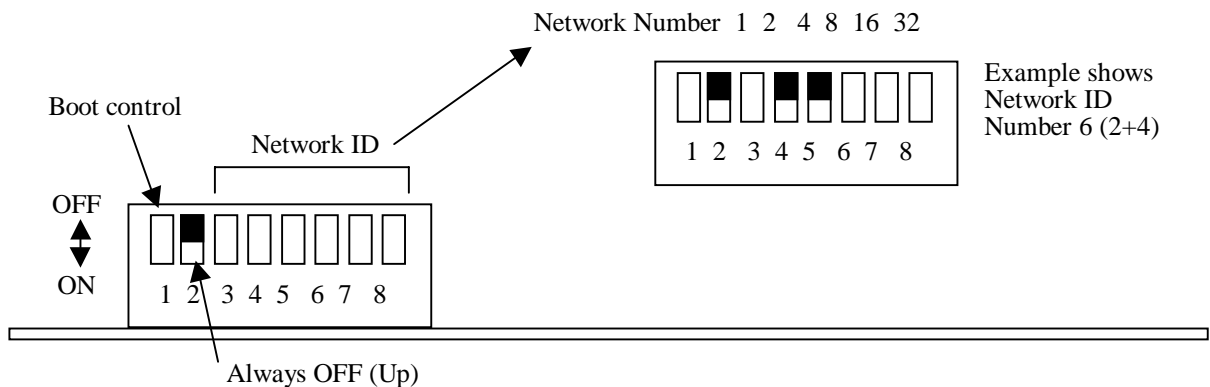


Figure 1-14 Switch S1 on Central Processor Pcb

System Software Installation (Not Required During Normal Installation)

25 The source of the operating system/system software is controlled by switch S1 on the Central Processor PCB (Figure 1-14 Switch S1 on Central Processor Pcb). Motif normally starts up from the hard disk (with S1 sections 1 and 2 up (off), normal operating positions). Should the hard disk become corrupted or damaged and the Motif fail to start up, the system software can be re-built on to the hard disk using the System Setup removable hard disk cartridge supplied (to create one - see para. 46).

Restoring the System Software (Not required during normal installation)

26. If the hard disk has become corrupted, damaged or has been replaced, carry out one of the following procedures:

On the Central Processor PCB ensure that section 1 of switch S1 is up (Off) and set section 2 to down (On). Insert the setup removable hard disk cartridge, switch the power on and follow the instructions on the edit monitor. If the hard disk fails to spin up when the power is first switched on, hold in the RESET button on the Central Processor PCB (see Figure 1-2 Mainframe Front Pcb Locations) until the drive is spinning normally and then release the button.

NOTE

There will be a delay (approx. 1 minute for the removable disk) before the instructions appear on the Edit monitor and, after the software has been restored, the menus will appear slowly as the system founts are rebuilt.

General Purpose Interface (GPI) Port

27. When either of the following boards is fitted, Arcnet S0506016 or Ethernet S0506042 the GPI port is available. This port accepts a single closure for remote control purposes. Only pins 1 (0V) and 2 (input) of the 9-pin connector are used.

NOTE

A contact closure must not be less than 6ms duration.

General Purpose Interface (GPI / GPO) Port (New option not currently available)

28. When the 100/10 Ethernet board S0506071 is fitted in addition to the GPI port as above a GPO output is available as well this is an open collector, negative going signal with a programable width. (Pin 3 (output), Pin 2 (Input) and Pin 1 (0V) of the 9-pin connector are used).

Computer Control Serial Port (Serial Port 1)

29. A 25-way connector providing an RS232C or RS422 interface (as set, see para 15). The pin connections are shown in Table 1.1. The baud rate and function of the port is set using software.

Pin	Function	
1	Frame ground	RS232
2	Receive data	RS232
3	Transmit data	RS232
4	RTS	RS232
5	CTS	RS232
7	Signal ground	
12	+Transmit data	RS422
13	-Transmit data	RS422
15	+CTS	RS422
16	-CTS	RS422
18	+Receive data	RS422
19	-Receive data	RS422
23	+RTS	RS422
24	-RTS	RS422

Table 1-1 Computer Control Serial Port Connections
(25-pin "D" Type Female)

INSTALLATION

Full Modem Serial Port (Serial Port 2)

30. A 25-way connector providing full modem facilities in either RS232C or RS422 form (as set, see para. 15). The pin connections are shown in Table 1.2. The baud rate and function of the port is set using software.

Pin	Function	Pin	Function
1	Frame ground	12	+Transmit data RS422
2	Receive data RS232	13	-Transmit data RS422
3	Transmit data RS232	14	-DTR RS422
4	RTS RS232	15	+CTS RS422
5	CTS RS232	16	-CTS RS422
6	DSR RS232	18	+Receive data RS422
7	Signal ground	19	-Receive data RS422
8	DCD RS232	20	DTR RS232
9	+DCD RS422	21	+DSR RS422
10	-DCD RS422	22	-DSR RS422
11	+DTR RS422	23	+RTS RS422
		24	-RTS RS422

Table 1-2 Full Modem Serial Port Connections
(25 Pin "D" Type Female)

Console (Terminal) Port

31. A 9-way connector which enables an external console/terminal to be used with Motif for servicing purposes. It provides RS232C data lines only and the pin connections are shown in Table 1.3. The baud rate of the port is set using software.

Pin	Function
1	Frame ground
2	Receive data RS232
3	Transmit data RS232
5	Signal ground

Table 1-3 Console/Terminal Port Connections
(9 Pin "D" Type Female)

Parallel Port

32. A multi-way connector (Centronics) provides bi-directional lines for printer functions, see Table 1.4. The maximum cable length is 5 metres.

Pin	Function	Pin	Function
1	Handshake 1	8	Data 7
2	Data 1	9	Data 8
3	Data 2	10	Handshake 2
4	Data 3	11	Busy
5	Data 4	17	Frame Ground
6	Data 5	19-28, 30	Signal Ground
7	Data 6	36	DIR

Table 1-4 Parallel Printer Port Connections
(36 Pin Centronics Female)

Parallel Digital Interface Option

33. Separate multi-way connectors are provided for programme and key inputs/outputs. The pin connections are given in Table 1.5. The maximum cable length is 50 metres.

Pin	Function	Pin	Function
1	+ clock	14	- clock
2	Signal ground	15	Signal ground
3	+ data 9	16	- data 9
4	+ data 8	17	- data 8
5	+ data 7	18	- data 7
6	+ data 6	19	- data 6
7	+ data 5	20	- data 5
8	+ data 4	21	- data 4
9	+ data 3	22	- data 3
10	+ data 2	23	- data 2
11	+ data 1	24	- data 1
12	+ data 0	25	- data 0
13	Frame ground		

Table 1-5 Parallel CCIR 601/656 Digital Connections for Programme and key
(25 Pin “D” Type Female)

Timecode Option (Not currently available)

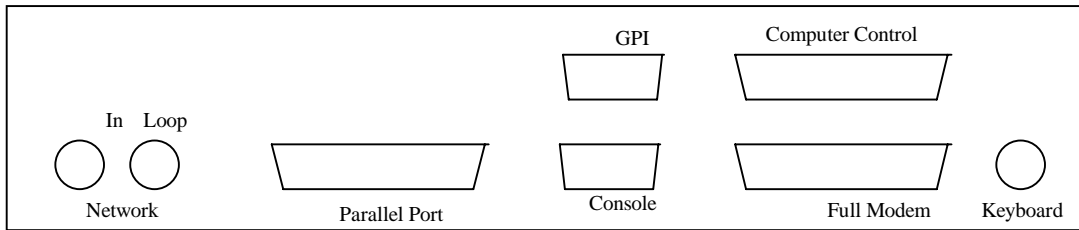
34. The 10/100 Base T Ethernet board (Aston No. A06001-104) has the Timecode option available using standard XLR connectors for Timecode In and Out and uses SMPTE LTC Timecode.

INSTALLATION

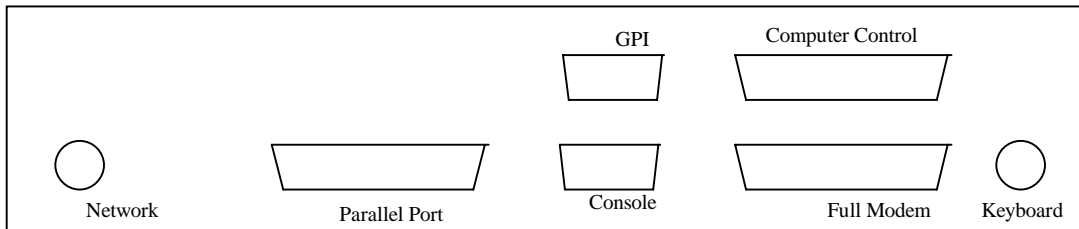
BACK PANEL CONNECTIONS

Processor Interfaces

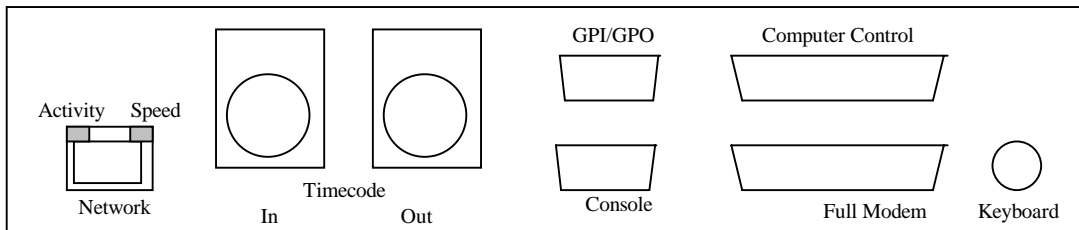
Arcnet – Aston Pcb Number S0506016



Ethernet – Aston Pcb Number S0506042



10/100 Base T Ethernet – Aston Pcb Number S0506071



Note: Speed / Orange =10Mbs, Green =100Mbs

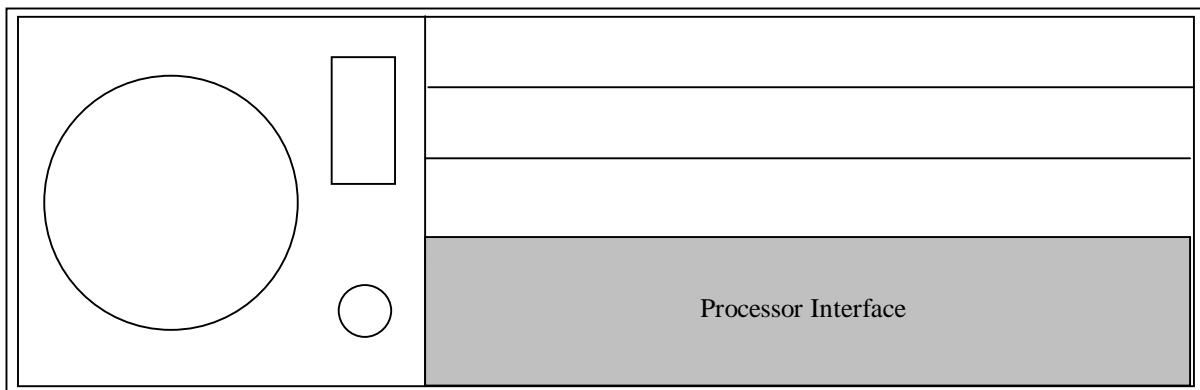
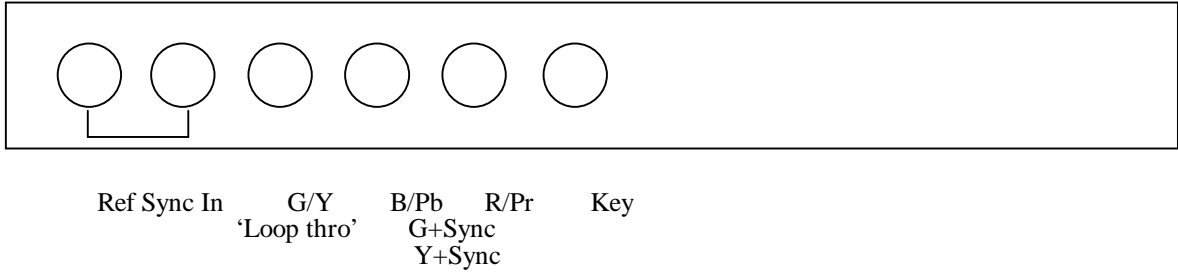


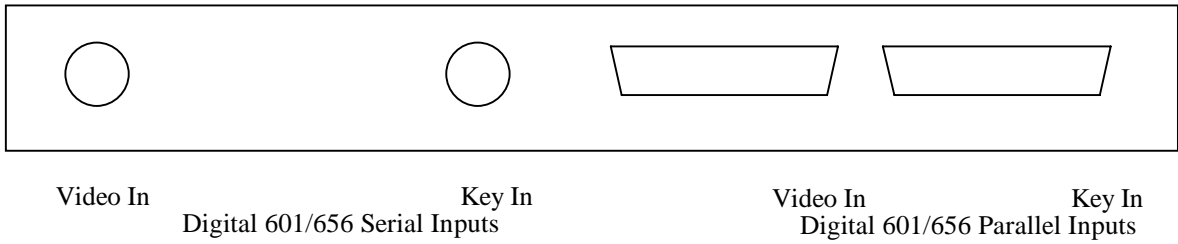
Figure 1-15 Processor Interface connections

Video Grab / Digital Output Interfaces

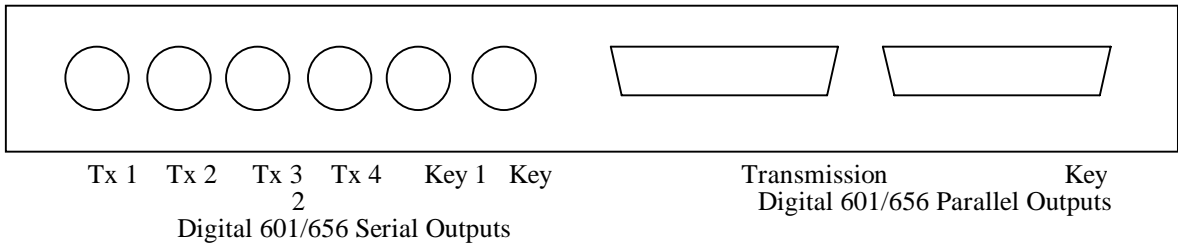
Analogue Grab – Aston Pcb Number S0506032



Digital Grab – Aston Pcb Number S0506034 or S0506061



Serial / Parallel 601 Output – Aston Pcb Number S0506014 or S0506073.



Note: Issue B Pcb's remove link 1 and fit to Link 21, Issue 1 Pcb's remove Link 2 for this position.

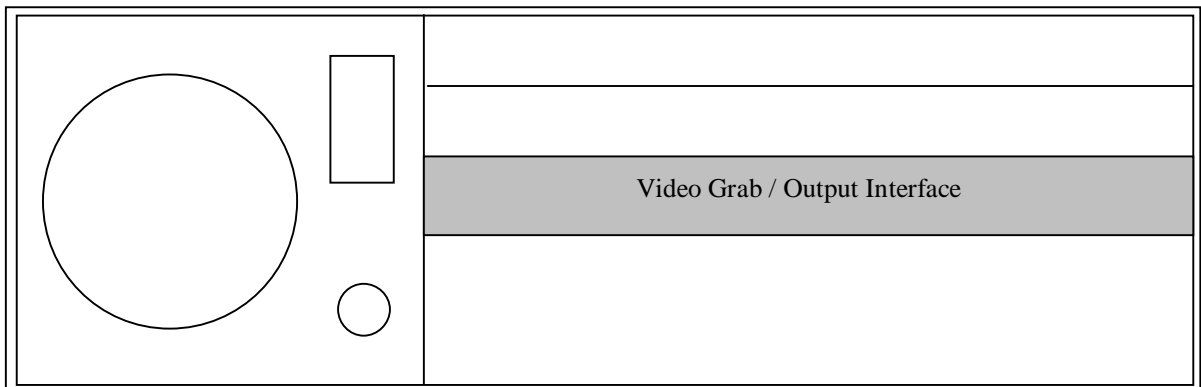
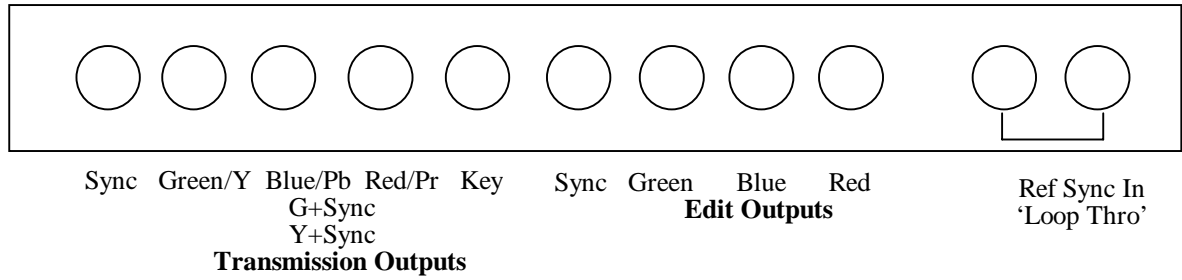


Figure 1-16 Video Grab / Digital Output Interface connections

INSTALLATION

Video Output Interfaces

Analogue Video Output – Aston Pcb Number S050618



Digital Video Output – Aston Pcb Number S0506057

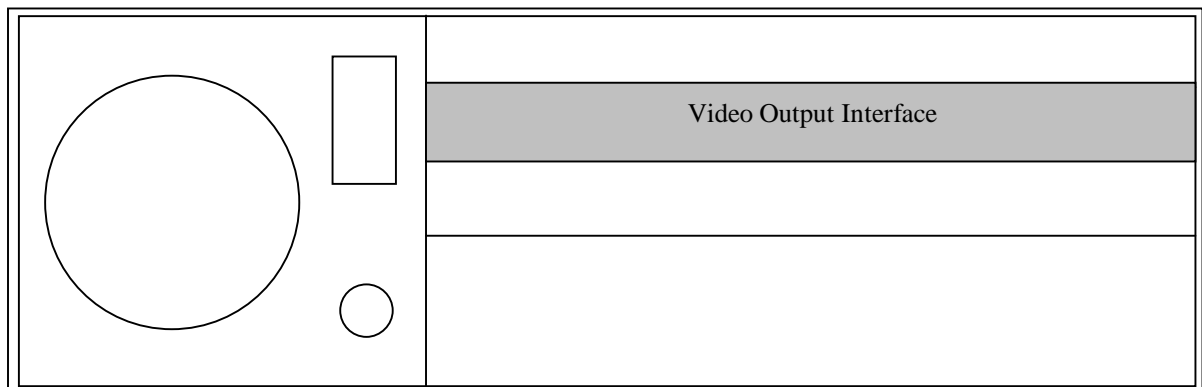
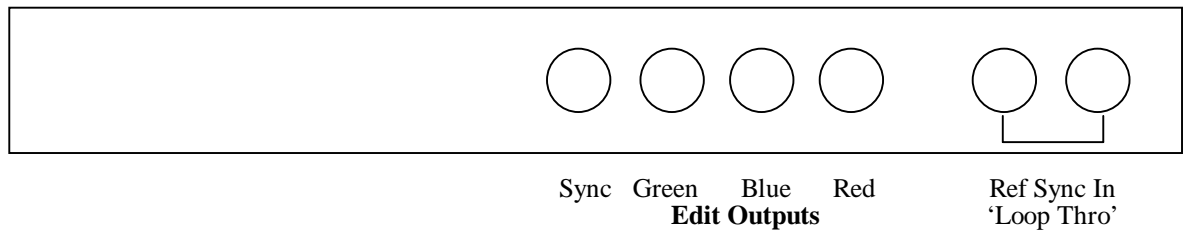
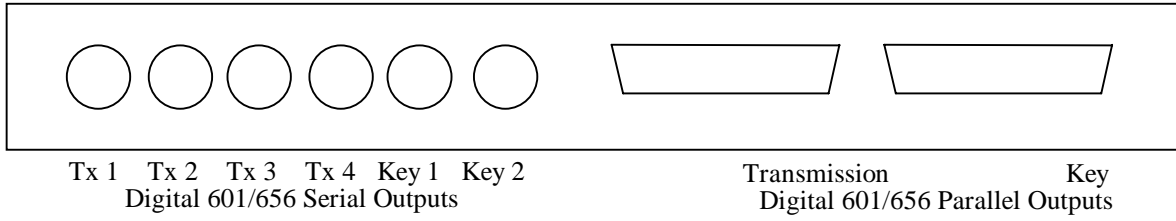


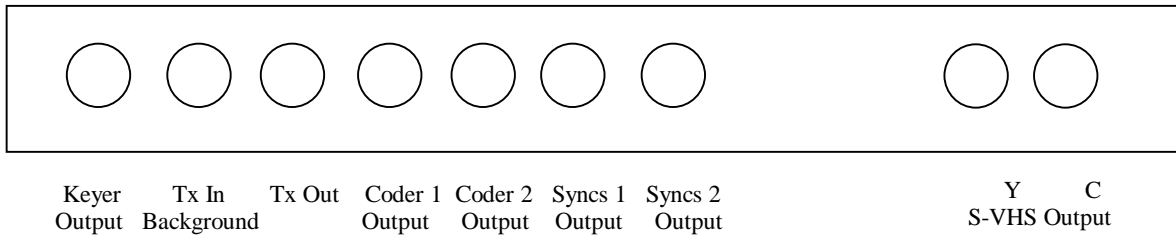
Figure 1-17 Video Output Interface Connections

Other Output Interfaces

Serial / Parallel 601 Output – Aston Pcb Number S0506014 or S0506073.



Coder / Keyer – Aston Pcb Number S0506017



Note: Motif Ref Syncs are derived from Tx In when the Coder/Keyer is fitted.

Digital Keyer – Aston Pcb Number S0506515

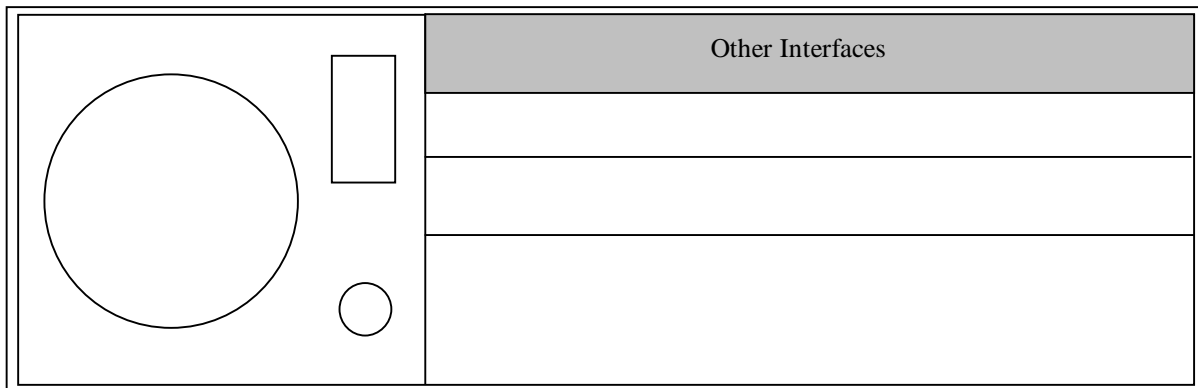
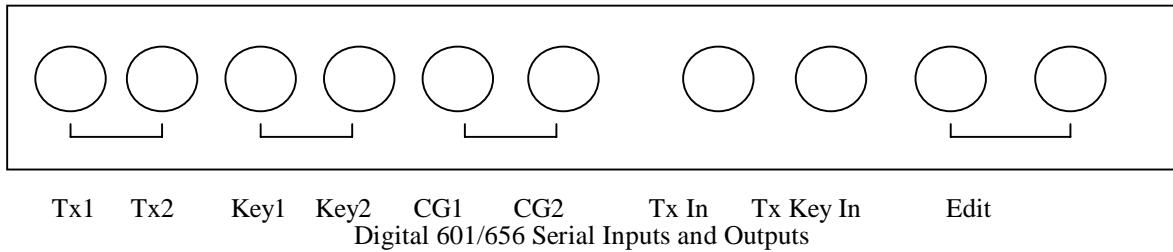


Figure 1-18 Other Output Interface Connections

INSTALLATION

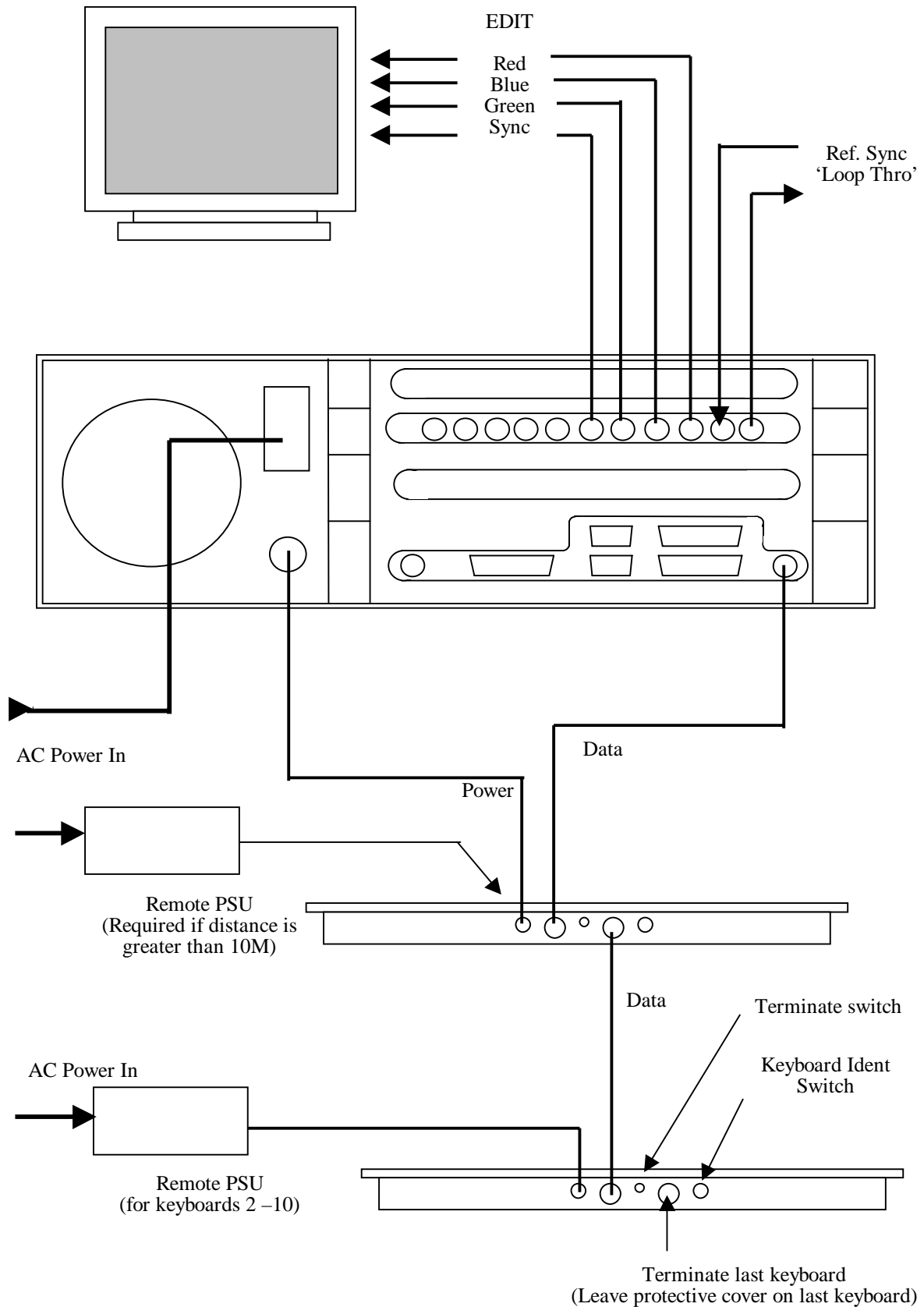


Figure 1-19 Motif Interconnections - Basic Edit / Keyboard connections

INSTALLATION

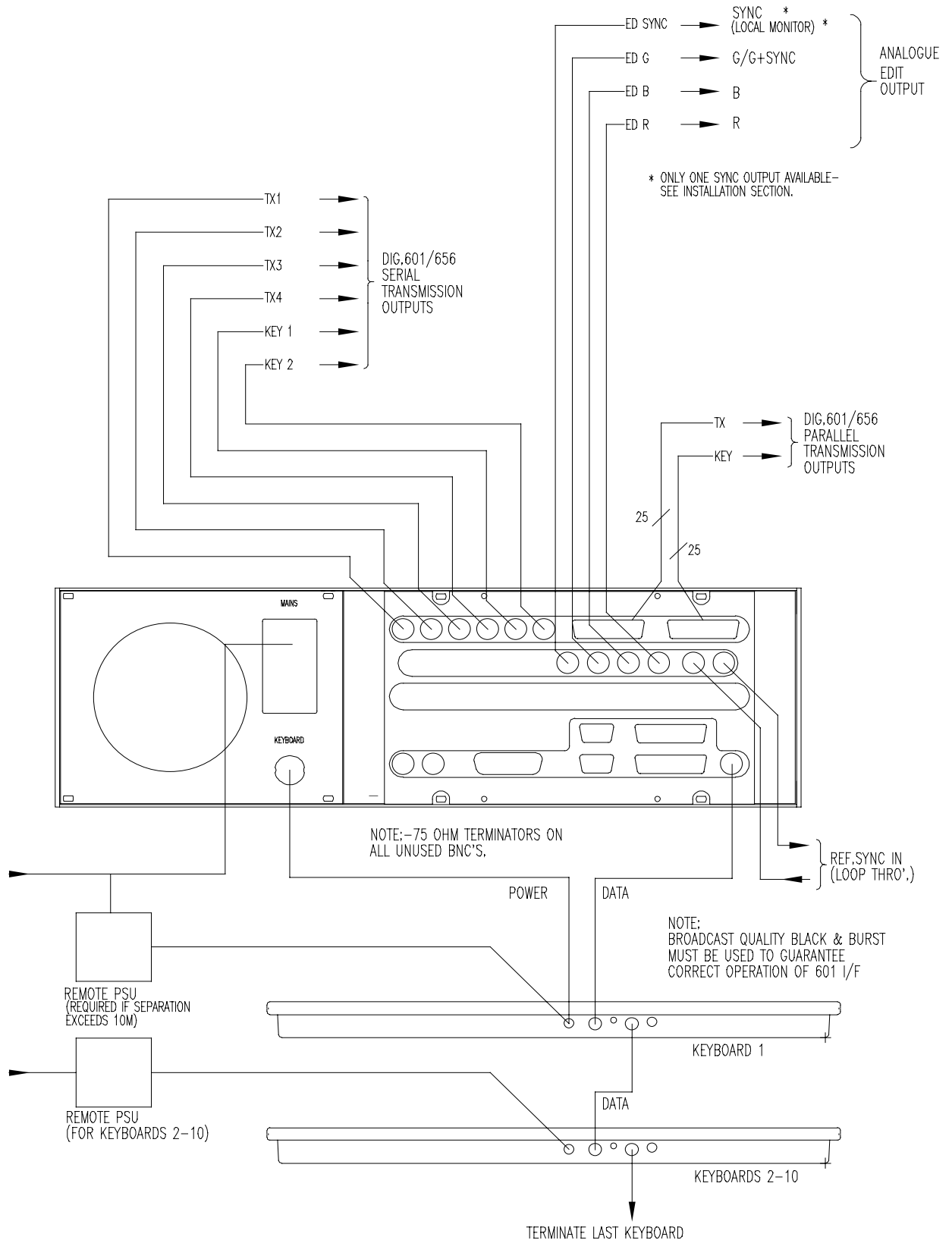


Figure 1-20 Motif Interconnections - Basic Digital System

INSTALLATION

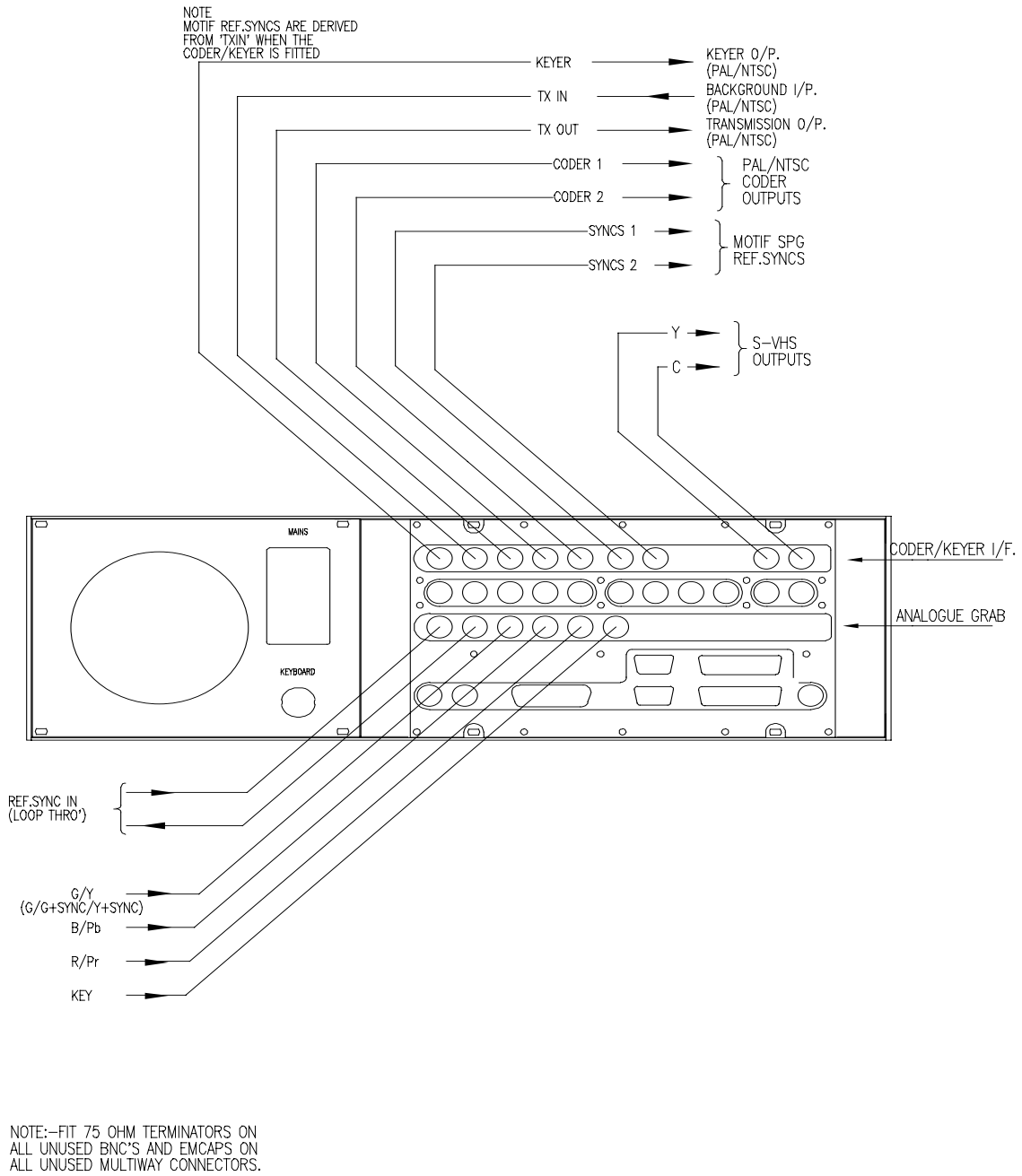
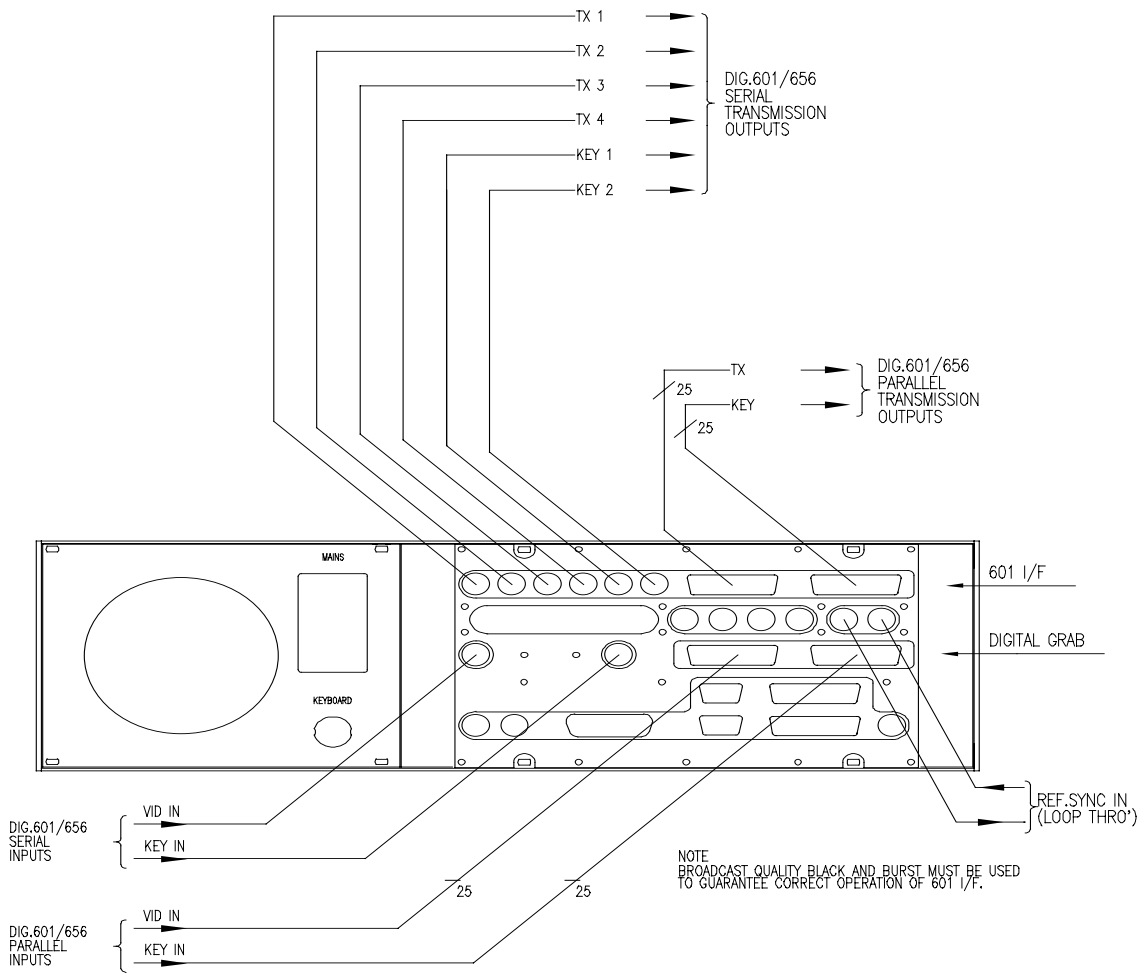


Figure 1-21 Motif Interconnections - Analogue System With Analogue Grab



NOTE:--FIT 75 OHM TERMINATORS ON ALL UNUSED BNC'S AND EMCAPS ON ALL UNUSED MULTIWAY CONNECTORS.

Figure 1-22 Motif Interconnections - Digital System with Digital Grab

INSTALLATION

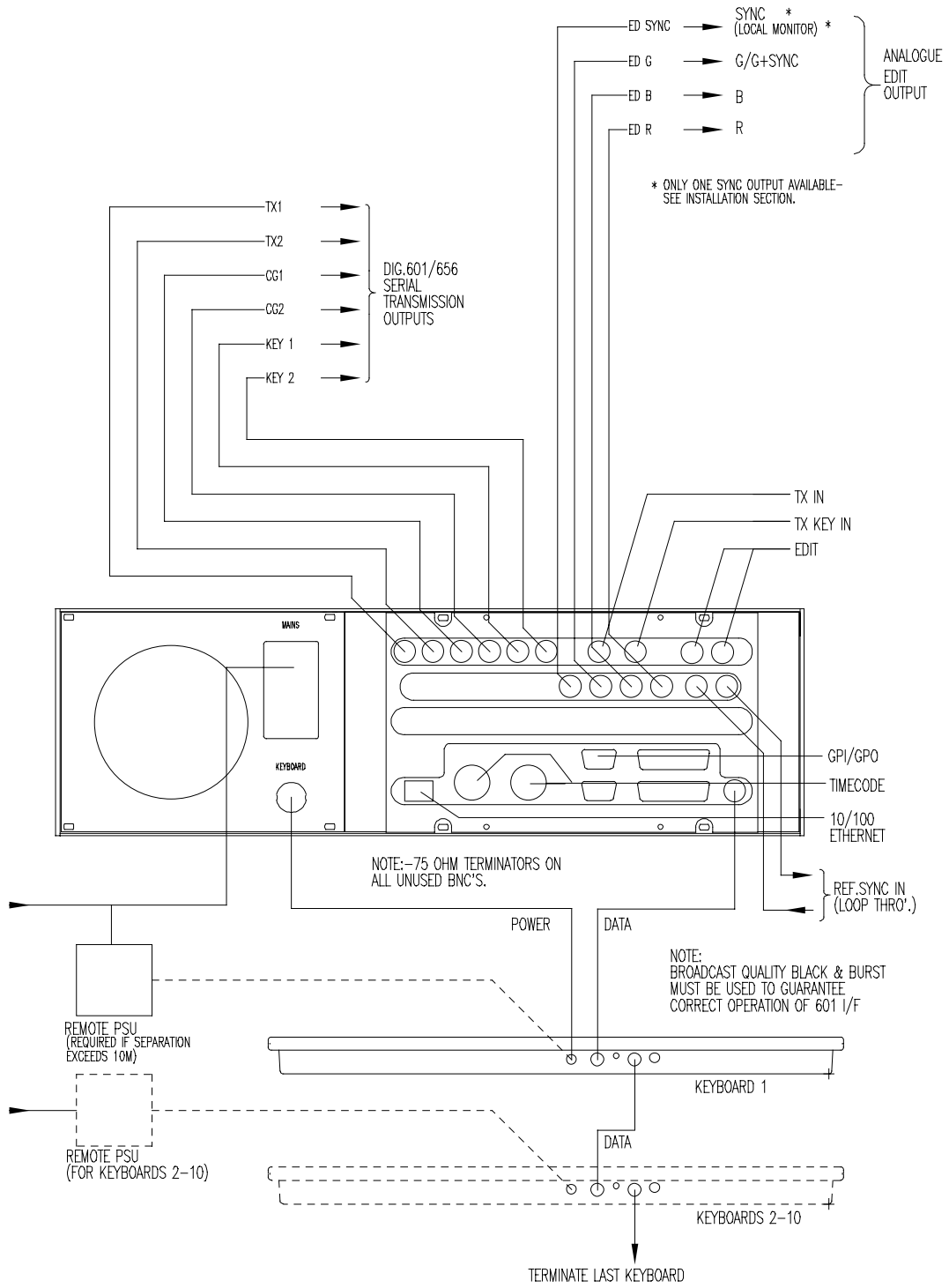



Figure 1-23 Motif Interconnections – Digital Keyer and 10/100 Base T Ethernet

Power Connections

35. The equipment is supplied set to the nominal voltage used in the country to which it is dispatched. The equipment should be installed near to an electrical a.c. mains power socket which is easily accessible.

36. Connect a suitable power plug to the power cord supplied with the unit, and to the Keyboard Power Supply (when included). In the U.K. the mains plug connected to the supply cord should be approved to BS1363 and be fitted with a 1.6 amp fuse approved to BS1362 (fuse is 3.15A for 110V operation). As the colours of the cores in the power cord of this equipment may not correspond with the colour markings identifying the terminals in your plug, proceed as follows:-

1. The core which is coloured green and yellow must be connected to the terminal in the plug which is marked with the letter "E" or by the symbol , or coloured green and yellow.
2. The core which is coloured blue must be connected to the terminal which is marked with the letter "N" or coloured black.
3. The core which is coloured brown must be connected to the terminal which is marked with the letter "L" or coloured red.

WARNING

THIS EQUIPMENT MUST BE EARTHED

NOTES

To comply with the requirements of safety regulations BS6204, VDE0805 and IEC435 the power supplies to both the Mainframe and Keyboard (when a separate supply is necessary) must be protected by a suitable double-pole earth leakage protection device.

To comply with the requirements of safety regulation BS6204 all accessible metalwork in the room and the safety earth connections of all other electrical circuits must be conductively connected together either by separate connection to the building earth or by bonding together or a combination of the two.

MOUNTING THE MAINFRAME UNIT

37. The Mainframe can be mounted in a standard 483mm (19") rack where it will occupy 3 units of height; it has depth of 525mm. Four oval holes allow it to be secured by four 0BA, 1/4" UNF, or M6 bolts. Provide adequate ventilation space at the rear and left-hand side to allow the fan to circulate air (air is drawn in at the left-hand side, looking from the front). A clear space of at least 200mm should be left at the rear of the unit for servicing the rear PCBs and the PSU, see Figure 1-3 Rear View of Motif Mainframe. The Motif mainframe must be mounted horizontally for correct operation.

TABLET AND PEN

38. The Tablet and Pen can only be used with Software V6.0 or later. We only recommend the use of the 'WACOM UltraPad™ A5, Model Number UD-0608 (Serial Version)'.

Tablet Connections

39. The Tablet is connected to the Computer Control or Full Modem port on the Processor Interface (see Figure 1-15 Processor Interface connections) via the Aston converter cable Aston No. S0506074. The Tablet and Pen uses RS232 serial data therefore check the setting of the links on the Processor Interface PCB, referring to section 15 (*Setting Serial Ports to RS232C or RS422*). The d.c. power connector should then be connected to the 9 pin connector, and the mains adapter plugged in to a suitable live supply.

INSTALLATION

Setup Serial Port

40. When the unit is operational Log On and adjust the serial port by selecting;

Utils / System Set-up / Serial Port Usage.

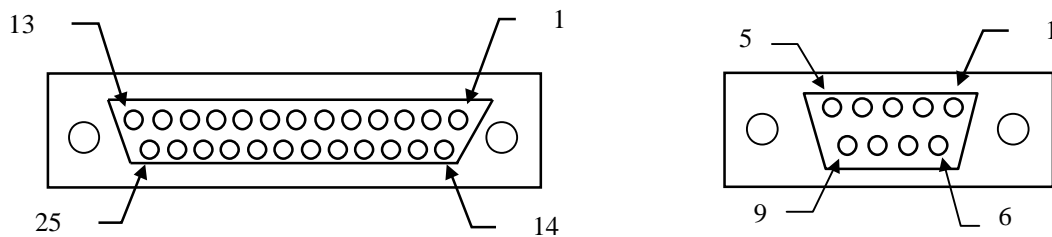
Highlight 'Computer Control' and press 'Select' until 'Graphics Tablet' is displayed.

NOTE

If 'Graphics Tablet' is already displayed beside 'Full Modem' you must first change this to an alternative driver before 'Graphics Tablet' may be set for the 'Computer Control' output.

Aston Converter Cable

41. Note that cable colours shown are those normally used by Aston. Data type is RS232C therefore overall cable length from the tablet to the Aston mainframe should not exceed 15 meters (50 feet).



View of plugs from solder side

25 Way 'D' Type plug		9 Way 'D' Type plug	
Pin No	Remarks	Pin No	Remarks
2	Red	3	Red
3	Green	2	Green
4	Yellow	7	Yellow
5	White	8	White
7	Black & Screen	5	Black & Screen
20	Blue	4	Blue

Figure 1-24 Tablet and Pen - Aston Converter Cable - S0506074

SWITCHING ON

42. If the Keyboard is powered from a Remote Keyboard Power Unit, switch the power on at the Remote Power Unit. To switch the Mainframe on, ensure that it is plugged in and then operate the POWER switch at the rear (see Figure 1-3 Rear View of Motif Mainframe); check that the indicator at the right-hand side of the front panel illuminates. The indicator changes colour when there is hard disk activity.

43. Undo the two screws and swing down the front cover. Check that the yellow indicator (+5V) on each of the PCBs is illuminated. Using a voltmeter, check that 5V is present between the test points on the front edge of the Video Output PCB (marked +5V and -5V on Figure 1-2 Mainframe Front Pcb

Locations); if the voltage is incorrect refer to Section 2 paragraph 6. Re-secure the front cover. On the Keyboard press the "Caps Lock" key and check that its indicator operates correctly. The machine will proceed with its initialising procedures. When the menu appears on the Edit display, log on and carry out the system setup as described below.

System Setup

44. Motif has a number of software controlled parameters under the Engineering setup window. To gain access to the Engineering setup, select the "Utils", "System Setup" and then "Engineering Setup" windows. You now require the use of the default password; this is ASTON. Aston recommend that once you have finished installing your Motif you should change the password as described in paragraph 44.

45. The Trackerball, SELECT, ACCEPT and QUIT keys as well as the alphanumeric keys are required for the engineering setup. Their functions are:-

Trackerball - Used to highlight the desired option

SELECT - Used to select a window or toggle through a list of options

ACCEPT - Used to accept the selected option or typed parameter; returns to the previous window.

QUIT - Returns to the previous window without altering any of the options.

46. The following options appear under the Engineering Setup menu; these should be set up as part of the installation of your Motif.

Line Standard

Motif has a software switchable 525/625 line output. The default will depend upon the country to which the machine has been supplied.

CAUTION

CHANGING THE LINE STANDARD WILL MEAN THAT YOU REQUIRE A 525 AND 625 LINE OR SWITCHABLE EDIT MONITOR

To change line standard select the "Line standard" option and follow the instructions.

Select the "Studio Setup" option; the following further options will be displayed.

NOTE

It is possible to use either a page of text generated by Motif or an internal test pattern to set video and key timings

Video Timing

The video timing can be advanced by up to 8 μ s or delayed by up to 1.4 μ s with respect to the incoming sync reference. The timing is adjusted as described in the engineering setup menu; select the "Video Timing" option and follow the instructions. If the Aston Coder/Keyer is not fitted a default value of 0ns is set during manufacture.

If you do not have an Aston Coder/Keyer fitted then connect the incoming sync reference through an oscilloscope to the SYNC IN BNC on the Video Output Interface PCB and place a 75 Ω terminator on the S/IN LOOP BNC. Connect the TX SYNC output to the second trace of the oscilloscope and trigger the oscilloscope on the incoming sync reference trace.

Adjust the timing until you can measure the required delay or advance; Figure 1-25 Sync Timing With Respect to Sync-In Reference, shows advanced and delayed timing. If an external Coder is used then advance the timing to allow for the delay through the Coder.

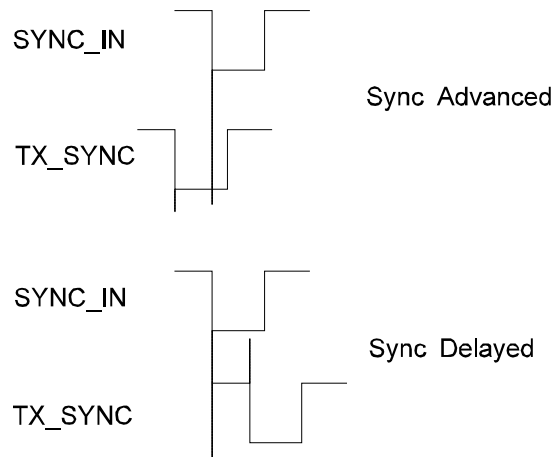


Figure 1-25 Sync Timing With Respect to Sync-In Reference

When the optional Aston Coder/Keyer is fitted. Connect the signal to the TX IN BNC of the Coder Keyer Interface PCB and monitor the COD 1 output (from the Coder/Keyer Interface PCB). On the oscilloscope adjust the timing until the front porch (shown by Figure 1-26 Front Porch Adjustment) is $1.55\mu\text{s} \pm 0.25\mu\text{s}$ for PAL or $1.5\mu\text{s} \pm 0.1\mu\text{s}$ for NTSC; this will have been set as the default at the factory.

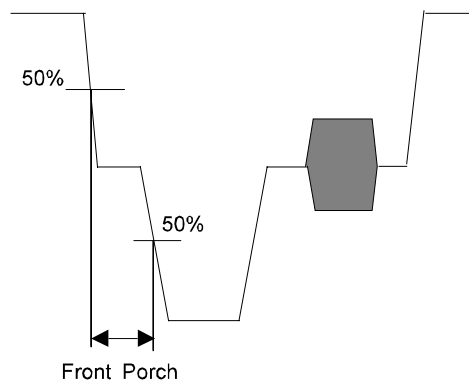


Figure 1-26 Front Porch Adjustment

Video Delay

This allows the analogue video outputs to be delayed independently of the digital video outputs, thus allowing analogue and digital video outputs to be co-timed to the analogue reference sync on the SYNC IN BNC.

The video delay should normally be set to zero except where analogue and digital outputs are to be co-timed with the analogue reference syncs. If this is required then advance the “Video Timing” for co-timed digital video output then, using the procedure described for the “Video Timing”, adjust the video delay to correctly time the analogue output to the reference sync.

Key Delay

The key delay can be set within the range 0 to 1100ns. The timing adjustment procedure is described in the engineering set up menu; follow the instructions. If the Aston Coder/Keyer is not fitted a default value of 0ns is set during manufacture.

To adjust the key delay for use with an external Keyer connect an EBU (PAL) or US (NTSC) bars background to one of your Keyer inputs and connect the Motif, via a Coder, to the other Keyer input. Monitor the Keyer output on an oscilloscope and terminate at the oscilloscope with 75Ω. The series of diagrams shown in Figure 1-27 Keyer Output Waveforms for Key Delay Adjustment illustrate the effect of the key delay at the Keyer output. Select the "Key delay" option and adjust until the waveform is similar to that at the top or bottom of Figure 1-27 Keyer Output Waveforms for Key Delay Adjustment, and then adjust the delay in small increments either side of the correct delay until the optimum delay is achieved.

If the optional Aston Coder/Keyer is fitted the required key delay should be factory set to approximately 415ns. This should be checked by selecting the key delay option from the menu and adjusting the delay as described above, with the bars generator connected to the TX IN BNC on the Coder/Keyer Interface PCB.

NOTE

The key delay applies to the analogue key only, not the digital key which remains co-timed with the digital video data.

Now exit from the "Studio Setup" menu by pressing ACCEPT to save the adjustments.

The Engineering Setup Menu includes a foreground On/Off option allowing the foreground (Motif) to be switched on and off; it will automatically default back to On when you leave the menu.

Network Name

If you are using the network a unique name for this node on the network must be supplied. Select the network name option and follow the instructions carefully.

Add drives

If you are installing additional disk drive units (other than those supplied) carefully you must add your additional drive to the disk configuration file. Select the "Add drives" option and follow the instructions carefully.

Delete Drives

If you wish to remove any additional disk drive units from the disk configuration file then select the "Delete drives" option and follow the instructions.

Change Processor

If you are going to change the Central Processor PCB to one with a different processor type then select the "Change Processor" option and follow the instructions carefully.

47. You may now exit from the "Engineering Setup" menu using the ACCEPT key; all the information entered will be stored and used as the default settings each time the machine is powered up.

48. If you have the Aston Coder/Keyer option fitted then you must now perform the Coder/Keyer PCB adjustments described in Section 2, paragraph 14 onwards, as part of the installation procedure.

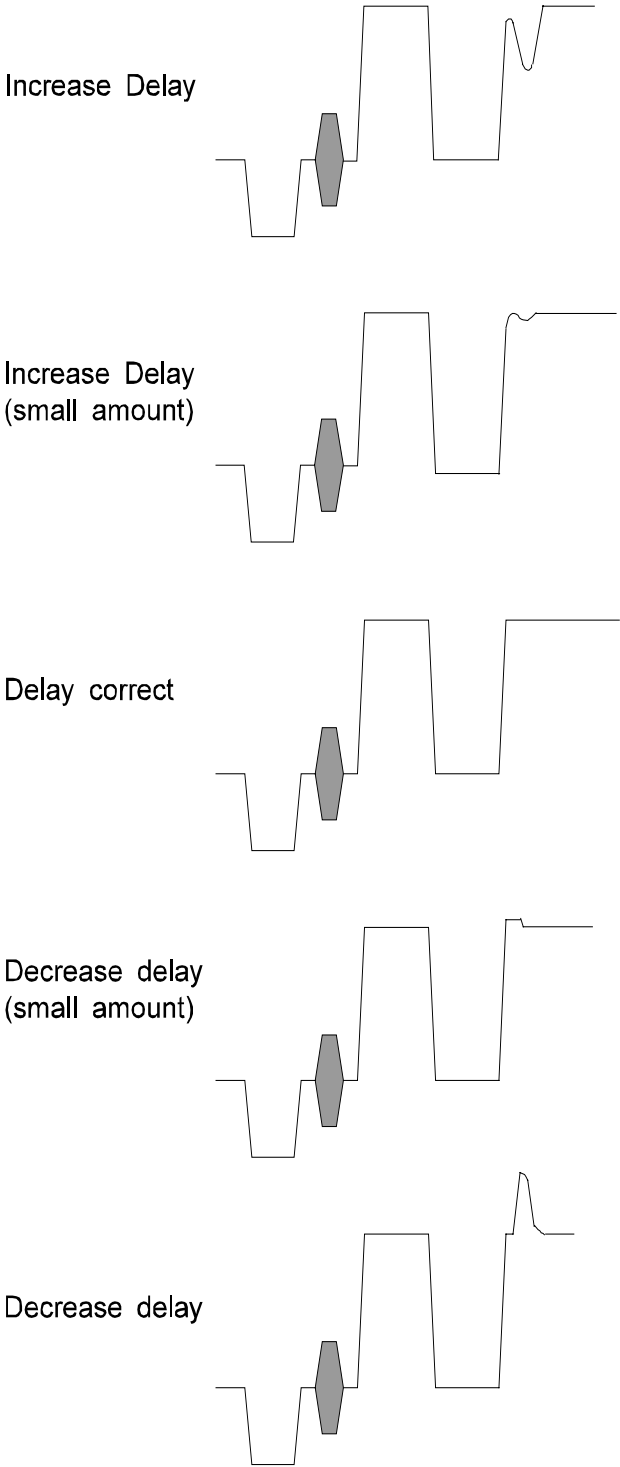


Figure 1-27 Keyer Output Waveforms for Key Delay Adjustment

Digital Keyer

49. The following can be selected when using the Digital Keyer as follows, select Utils/System Setup/ Engineering Setup/*Password*. If you are using a Motif or ESP you can manually select **Keyer Card** On/Off, the Advantage and XL auto detect the card and cannot be turned off.

49. Whilst in the Engineering Setup if you select **Keyer Setup** the following can be selected, Key output, Video Input and Video Delay.

Key Output

You can select either Combined or Clean, if Clean is selected then the Key output is the character Generator key output only and the keyer CG1 and CG2 outputs can be used as an additional serial output with key.

Video Input

You can select either Shaped or Unshaped, if the input video is unshaped then the software enables a preshaper which then shapes the input with its own key prior to keying with the CG.

Video Delay

You can select either Frame or Minimum, if Frame is selected then a full frame delay through the keyer is applied, if Minimum is selected then using the Video Timing adjustment a delay of as little 1.4µs can be specified

Creating a Setup Removable Hard Disk Cartridge

50. If additional software has been added since the purchase of your unit, it is strongly recommended that a setup disk is created in case problems should occur when starting up from the hard disk drive. Select "Utils", "Disk Utilities" and then "Create Removable Setup Disk". Insert a removable hard disk cartridge (the disk will be re-formatted) and follow the on-screen instructions. Keep this disk in a secure place.

51. When installation is complete Aston recommend that you change the password to prevent unauthorised users changing the set up. Select the "Utils", "System Setup" and then "Password File" windows. Now select *Engineering password* from the "Select User" option and then "New password". Type the new password and press the ACCEPT key.

NOTE

Passwords are alphanumeric only and are not case sensitive. Please remember to write down and store the new password in a safe place.

2. Maintenance

INTRODUCTION

1. There is no routine maintenance on a standard machine used in a clean environment, e.g. a television or creative studio.

DISASSEMBLY

CAUTION

DURING DISASSEMBLY, ALWAYS ENSURE THAT AC POWER IS DISCONNECTED FROM THE EQUIPMENT.

SUITABLY QUALIFIED ENGINEERS SHOULD ONLY CARRY OUT MAINTENANCE.

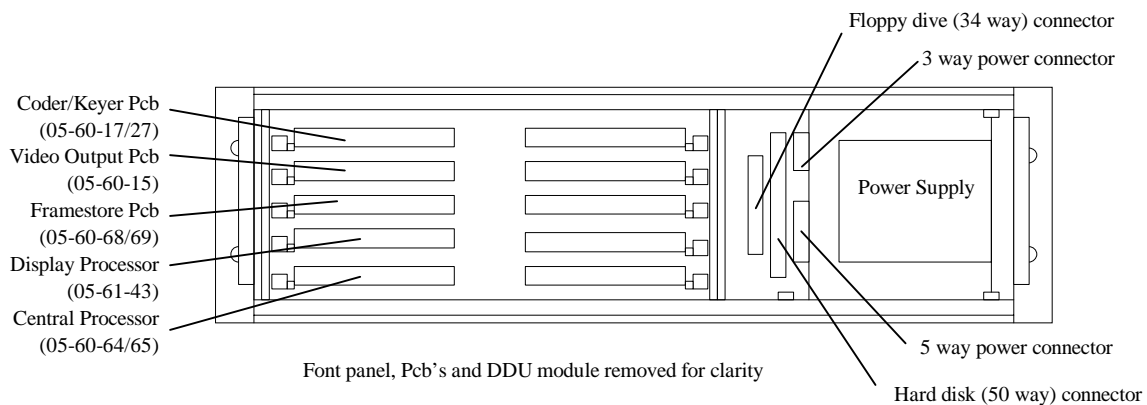


Figure 2-1 Front View of Motif with Disk Drive Assembly Removed

2. Access to the sub-assemblies of the Mainframe is very simple. Refer to Figure 1-3 Rear View of Motif Mainframe, Figure 2-1 Front View of Motif with Disk Drive Assembly Removed and Figure 2-3 Plan View of Motif Mainframe, and proceed as follows:

Front PCBs. Loosen the two screws with chromed surrounds at the top of the wide front panel and hinge the panel downwards. Use the red board ejector handles on the front of each PCB to remove the PCB from the Mainframe. When replacing PCBs, ensure that they are correctly located in their slot before pushing them home. Finish by hinging the front panel upwards and tightening the two screws.

Disk Drive Units. Hinge down the wide front panel by loosening the two screws. Undo the four screws with chromed surrounds which retain the right-hand front panel. Gently ease the panel forward taking care not to strain the cables. Unplug the ribbon cable from each disk unit and both the power cables from the PSU free power connectors. Fully withdraw the assembly from the Mainframe.

The disk drive units are mounted in a small frame attached to the front panel. When removing the hard disk drive note that there is a connection from the front panel LED indicator to a connector on the drive. The fixed hard disk is the last in the SCSI chain and is terminated. If the fixed hard disk is replaced ensure that the TE link is fitted (remove link P0 if fitted) and set to SCSI device 0 (no links fitted to A0, A1 or A2).

MAINTENANCE

When re-fitting the disk drive assembly, note that the smaller power connector and smaller ribbon cable connector go to the floppy disk drive (keyway “bump” on connector corresponds with cut-out on PCB), which is not a SCSI device.

The removable-media hard disk drive should be set as SCSI device 1 (position “A0”, Figure 2-2 SCSI ID links for Removable drive - Link set for SCSI ID 1) and must not be terminated.

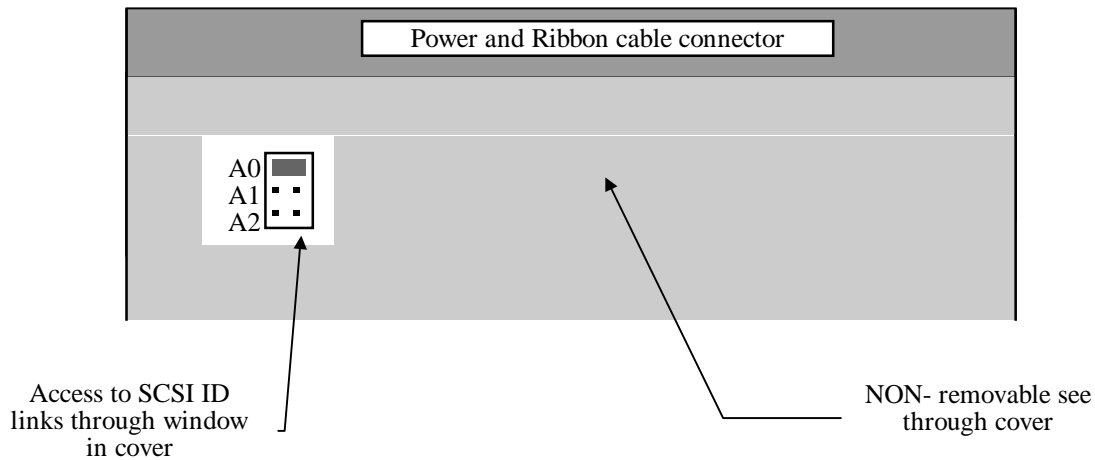


Figure 2-2 SCSI ID links for Removable drive - Link set for SCSI ID 1

Rear PCBs. Each PCB is attached to a rear panel containing interface connectors. Undo the cables to the connectors, undo the many screws to remove the EMC/legend panel and then remove the chromed screw(s) at each end of the appropriate panel. Push the two board ejector handles outwards and withdraw the PCB with rear panel from the Mainframe. When replacing a PCB, check that it is correctly located in its slot before pushing it home; refit the chromed screws. Ensure that the longer fixing screws (M2.5 x 10mm, with shake-proof washers) are used along the top and bottom of the EMC/legend panel and the shorter screws (M2.5 x 6mm, with shake-proof washers) fix it to the rear card panels. Reconnect the cables.

CAUTION

THE PCBs COULD BE DAMAGED IF THE 10 mm SCREWS ARE USED TO SECURE THE EMC PANEL TO THEIR REAR PANELS.

Power Supply: To remove the power supply, first remove the power cables at the rear and then withdraw the disk drive assembly from the front (see above). Remove the PSU power connectors from the front of the Motherboard, see Figure 2-1 Front View of Motif with Disk Drive Assembly Removed. At the rear, undo the four screws with chromed surrounds retaining the left-hand rear panel and withdraw the panel complete with power supply. To refit the power supply is the reverse procedure.

Keyboard: Disconnect the cables, lay the Keyboard on its front, and undo fourteen screws in the base of the unit. Turn the Keyboard over and ease the top cover away from the base (observe the Warning below). The base of the Keyboard can be removed from the PCB assembly by undoing four screws. Note that the tracker ball is loosely retained between the base cover and the PCB – and it is located correctly by the top cover when fitted. Individual key mechanisms can be replaced by unsoldering from the PCB and withdrawing from the metal plate.

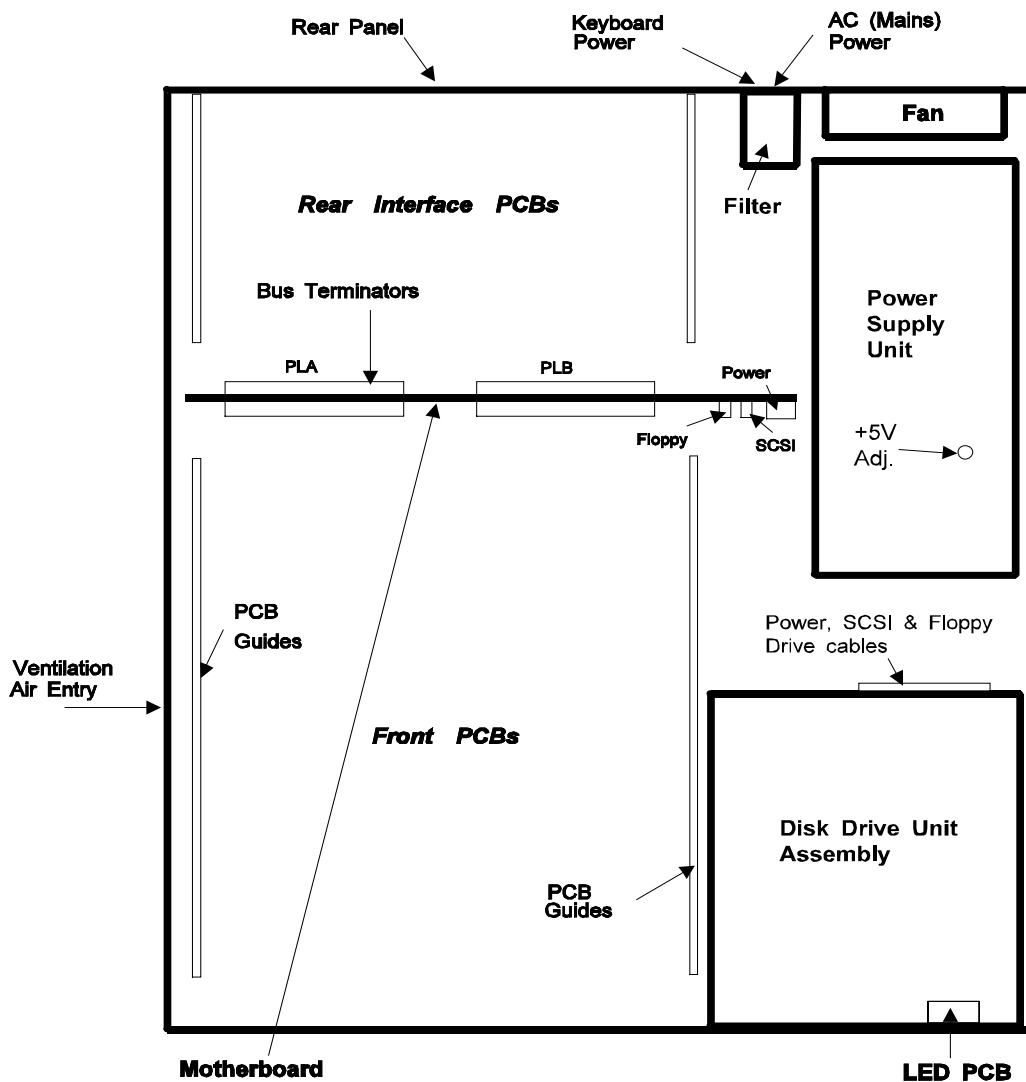
WARNING

TAKE CARE NOT TO INJURE YOURSELF ON THE SHARP EDGES OF THE BERYLLIUM-COPPER STRIPS SEALING THE TOP AND BOTTOM KEYBOARD CASE SECTIONS.

When refitting the top cover to the Keyboard, ensure that the screw near the power connector engages with the earth tag inside; do not over-tighten the screws as this could distort the case.

CAUTION

WHEN RE-ASSEMBLING ENSURE THAT SEL-TAPPING SCREWS FOLLOW THE ORIGINAL CUT THREAD. THIS CAN BE DONE BY LOCATING THE SCREW AND “UNDOING” IT UNTIL THE THREADS CAN BE FELT TO LINE UP. CROSS-THREADING THE SCREWS MAY CAUSE THE THREAD TO STRIP



MAINTENANCE

FUSES

NOTE

Motif does not have an indicator that is driven directly from the a.c. power. Before proceeding, ensure that ac. power is arriving at the Mainframe.

Replacement fuses should be approved to BS4265 or IEC127.

3. The a.c. power input is fused just below the connector entry at the rear. If the LED indicator on the front of the disk drive assembly is extinguished, check this fuse. It is rated at T1.6A for 240V and T3.15A for 110V systems; use a ceramic anti-surge type of fuse.
4. If the power fuse is satisfactory but the indicator on the front of the disk drive assembly is still extinguished, lower the front panel and check that the yellow +5V indicators on each PCB are illuminated. If these are extinguished, then the fuse inside the power supply may have "blown". Remove the power supply from the Mainframe (see para. 2). Take off the cover and check the fuse (FS1); replace, if necessary, with a T5A anti-surge ceramic cartridge fuse. If both the power input and power supply fuses are satisfactory, the power supply should be replaced.
5. Each of the front PCBs has a yellow LED indicator at its front edge (Figure 1-2 Mainframe Front Pcb Locations) which illuminates to show that +5V is present. The rear PCBs do not have an LED indicator. If the equipment is not working correctly, check that +5V is present on all the PCBs. If a PCB 5V supply has failed, check the 5V fuse links on that PCB. The location of one of the fuses is shown in Figure 1-4 Video Output Interface Pcb Links (they are located in similar positions on other PCBs). All fuses on a PCB are connected in parallel and except for the Display Processor (5A), are rated at 3.5A. If a fuse has "blown" the cause must be ascertained before the fuse is replaced, or a replacement PCB obtained.

POWER SUPPLY ADJUSTMENT

6. The power supply may require adjustment when Motif has been moved. Hinge the Motif front panel downwards and at the front of the Video Output PCB (see Figure 1-2 Mainframe Front Pcb Locations) measure the +5V supply on TP19 using TP20 for 0V.
7. The +5V supply should be in the range 4.75V to 5.25V. If it is not, switch off Motif and remove the power supply (para. 2). Locate the hole in the power supply cover, just behind the d.c. power connections, which gives access to the +5V potentiometer and adjust it as necessary. Refit the power supply and check the +5V supply. If necessary, remove, adjust and refit the power supply until the +5V supply is in the range 4.75V to 5.25V.

NOTE

All links on extender cards must be fitted (as supplied). We cannot guarantee that ALL the PCBs will work correctly when mounted on the extender PCB.

SETTING-UP AND ADJUSTMENTS

8. The Coder/Keyer PCB has adjustments for horizontal phase and subcarrier phase. These should be checked on installation and whenever the background picture source connected to the TX IN BNC is changed.
9. The Video Output PCB has adjustments for output levels; these are preset at the factory and in normal use should not require further adjustment. If you wish to check and adjust the video output levels then follow the procedure below.

NOTE

Do not attempt to adjust any potentiometer not specified as these can only be set at the factory.

Test Equipment Required

10. The following items of test equipment are required:

Oscilloscope - 30MHz.

Vectorscope, Suitable for the system setup (PAL or NTSC).

Colour Picture Monitor, composite input for system in use (PAL or NTSC).

CAUTION

TO AVOID DAMAGE TO THE UNIT IT IS RECOMMENDED THAT THE POWER IS TURNED OFF WHENEVER A PCB IS REMOVED OR RE-FITTED.

Video Output Adjustments

11. If you have access to the top of the Motif unit then the adjustments can be performed without the use of the Extender PCB option. Remove the top cover by releasing 10 off M2.5 x 8mm screws and lift off the top cover, then withdraw from the front the Coder/Keyer PCB (slot 5), if fitted.

12. If access to the top of the Motif unit is not possible, withdraw the Video Output PCB from the front, mount it on the Extender Card and refit the pair in the Video Output PCB slot (4).

13. Proceed as follows (see Figure 1-7 Video Output Pcb Links, for location of links, test points and potentiometers):

- (1) Edit Output. Connect the oscilloscope probes to TP11 (Edit) and TP15 (0V). Fit a link to LK1 (White). Adjust RV1 (Edit Adj) for 700mV \pm 50mV from back porch to peak white. Remove the link from LK1.
- (2) Transmission Sync. Connect the oscilloscope probes to TP13 (Sync) and TP15 (0V). Adjust RV2 (Tx Adj) for 300mV \pm 10mV.
- (3) Transmission Blue. Connect the oscilloscope probes to TP16 (Blue) and TP15 (0V). Set the Black level to align with the bottom horizontal graticule line on the oscilloscope; this will be the reference line (Ref).
Fit a link to LK1 (White) and adjust RV3 for 1.4V \pm 5mV. Remove the link and re-align the black level with the "Ref" line. Refit the link to LK1 and readjust RV3 for 1.4V \pm 5mV. Remove the link and check that the black level has not moved. If it has, repeat this procedure until both settings have been achieved.
- (4) Transmission Green. Connect the oscilloscope probes to TP17 (Green) and TP15 (0V).
Fit a link to LK1 (White) and adjust RV4 for 1.4V \pm 5mV. Remove the link and re-align the black level with the "Ref" line. Refit the link to LK1 and readjust RV4 for 1.4V \pm 5mV. Remove the link and check that the black level has not moved. If it has, repeat this procedure until both settings have been achieved.
- (5) Transmission Red. Connect the oscilloscope probes to TP18 (Red) and TP15 (0V).
Fit a link to LK1 (White) and adjust RV5 for 1.4V \pm 5mV. Remove the link and re-align the black level with the "Ref" line. Refit the link to LK1 and readjust RV5 for 1.4V \pm 5mV. Remove the link and check that the black level has not moved. If it has, repeat this procedure until both settings have been achieved.
- (6) Transmission Key. Connect the oscilloscope probes to TP21 (Key) and TP15 (0V).
Fit a link to LK1 (White) and adjust RV6 for 1.4V \pm 5mV. Remove the link and re-align the black level with the "Ref" line. Refit the link to LK1 and readjust RV6 for 1.4V \pm 5mV. Remove the link and check that the black level has not moved. If it has, repeat this procedure until both settings have been achieved.

NOTE

The Programme sync adjustment sets the initial gain for the transmission RGB and Key outputs. Therefore, if the sync is readjusted the transmission RGB and Key must also be readjusted.

Coder/Keyer Adjustments

14. The potentiometers for the Coder/Keyer PCB adjustments (horizontal and subcarrier phase) are mounted on the front edge of the PCBs and so the Extender PCB is not required. Figure 1-2 Mainframe Front Pcb Locations, shows the location of these potentiometers. The Trackerball, SELECT, ACCEPT and QUIT keys as well as the alphanumeric keys are required for the engineering set-up. Their functions are:-

MAINTENANCE

- Trackerball - Used to highlight the desired option.
- SELECT - Used to select a window or toggle through a list of options.
- ACCEPT - Used to accept the selected option or typed parameter; returns to the previous window.
- QUIT - Returns to the previous window without altering any of the options.

15. Proceed as follows:

- (1) **Horizontal Phase.** Log on to the Motif and from the window select "Utils", "System setup", "Diagnostics" and then "Aston Coder/Keyer H phase" options. This puts a white picture on to the Motif output.
Use the oscilloscope to monitor the TX OUT signal from the BNC connector on the rear of the Coder/Keyer Interface PCB (rear of Motif); ensure that the oscilloscope is terminated with 75Ω . Adjust the "H" potentiometer (right-hand) to set the front porch (measured at the 50% level as shown in Figure 2-4 Front Porch) to $1.55\mu\text{s} \pm 0.25\mu\text{s}$ for PAL Coder/Keyers or $1.5\mu\text{s} \pm 0.1\mu\text{s}$ for NTSC Coder/Keyers.
- (2) **Subcarrier Phase.** Connect the composite background video to the TX IN BNC on the Coder/Keyer Interface PCB. Set the background video to provide EBU colour bars for PAL systems or US colour bars for NTSC systems. Connect the vectorscope (terminated in 75Ω) to the TX OUT BNC on the Coder/Keyer Interface PCB.

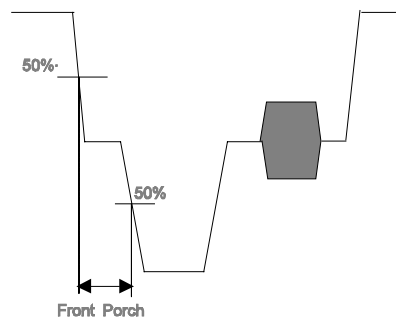


Figure 2-4 Front Porch

Select "Utils", "System setup", "Diagnostics" and then "Aston Coder/Keyer SC phase". This puts an EBU (PAL) or US (NTSC) colour bar waveform into the top half of the Motif output.

Note the two sets of vectors on the vectorscope; adjust the subcarrier phase potentiometer "SC" until the two sets align.

A simple (approximate) adjustment may be made as follows. Connect a colour monitor to the TX OUT BNC on the Coder/Keyer Interface PCB (rear of Motif), observing the bar patterns on the monitor and adjusting the "SC" potentiometer (left-hand) until the colours in the top and bottom halves of the picture match.

Remove the vectorscope and connect the colour monitor to the TX OUT BNC. Check that the top half of the screen has the same colours as the bottom half. If the colours are incorrect, remove the colour monitor and reconnect the vectorscope to the TX OUT BNC. Adjust "SC" to rotate the second set of vectors through 180° . Remove the vectorscope, reconnect the colour monitor to TX OUT and recheck the colours.

52. The Setting Up of Motif is now complete.

3. Appendix 1

INSTALLING THE ETHERNET OPTION

INTRODUCTION

1. Installation of this option will allow Ethernet communication between Motif or Ethos, and third party devices to import & export files.

The following file types may be imported over the Ethernet using TCP/IP:

- ASCII text files.
- Postscript typefaces (via Typeface Importer).
- Tiff files *
- Targa files *
- BMP/DIB files *
- PCX files *

* These files may also be exported via the Ethernet to a third party device.

Please note that if a failure occurs during the installation of either the software or the hardware, it could leave the unit in a non-working condition. It is therefore important to ensure that the unit is fully backed up and that either the System Set-Up Floppy Disks are available, or a System Removable Disk has been created and tested, before proceeding further.

Install the Ethernet software

2. Select **Utils, Installation, Add System Software**.

Press the SELECT key to execute. Note warning message and press ACCEPT.

When the software installation is complete the unit will attempt to restart, this will be indicated by the processor LED's indicating a 'start up sequence'. Please note that because of the incompatibility that now exists between the software and hardware the unit may not restart, with nothing displayed on the edit monitor, the 'start up sequence' will be continuously repeating. This is normal.

Replace the Processor Interface Board

Please ensure that the power is switched off and the power cable is removed before you commence work.

3. Remove any cables from the back of the unit and remove the EMC trim panel.

Remove the existing Arcnet Processor Interface board (type 05-60-16) and replace it with the Ethernet Processor Interface board (type 05-60-42) that has been supplied.

Replace the trim panel and cables (do not connect the Ethernet at this time), and restart the unit.

Ethernet Setup

4. The unit should now start correctly and allow you to log on. The unit should now be tested to ensure that the normal functions are available before connecting and setting up the Ethernet protocol.

When the unit is operational, the Software Disk should then be copied by using the **UTILS / DISK UTILITIES** menu, to provide a backup. It then should then be stored with your other System Software Disks, so that in case of a hardware failure, you will be able to replace the Hard Disk and reinstall the System Software.

In the menu **UTILS / SYSTEM / NETWORK STATUS** go to the **Edit Local Address** option where you may change the default IP (Internet Protocol) Address to suit your local systems configuration as required (the recommended setting is shown in Figure 3-1 Central Processor Network Address Settings.).

APPENDIX 1

Local Network 10. 0 .0 . XX

Where XX = Central Processor switch setting, which operates as shown in the diagram on the right.

With the switch in the Up position the value is selected. In the example the Network ID would be 13. The unit must be reset for any new switch position to be registered.

The other values may be highlighted and modified as required. The limits are as follows:

0 to 255 . 0 to 255 . 0 to 255 . 1 to 63

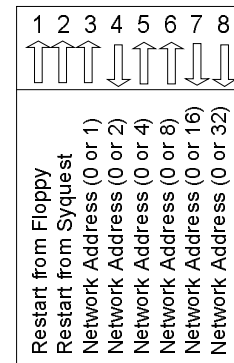


Figure 3-1 Central Processor Network Address Settings

Please note the following special cases:

10	X	X	X	Local Area Network Only
127	X	X	1	Reserved for Loopback
192	6	100	X	Reserved for Ethernet Testing
192	9	200	X	Reserved for SunEther Testing
192	52	109	X	Reserved for OS-9 Ether Testing
255	X	X	X	Unit will broadcast only

Accepting out of the menus will save the information to disk. The Ethernet cable may now be connected.

It is also possible to select and modify the **Subnet Mask** where you may Edit the availability of other networks to the user. The normal setting for un-restricted file transfer is:

255.255. 255. 0

These settings should only be modified by your system administration manager.

In Version 6 it is also possible to set a **Gateway** where you may specify the TCP/IP address of a link to another network, or the Internet. The default setting for no file transfers is:

0. 0. 0. 0

These settings should only be modified by your system administration manager.

You may also optionally select the **Edit Hosts** option where you may **Add** , **Edit**, or **Delete** a **Host IP Address** and the **Name** of the host.

This provides a short cut to a host , so instead of inserting the complete IP Address to gain access to the hosts FTP Directory, only the host name needs to be entered. This option is also used to support the VIP control data to an Accom™ Disk Recorder.

You may also optionally select the **Edit Networks** option where you may **Add** , **Edit**, or **Delete** the **Ethernet Network Number** and the **Official Name** (this must be a unique name/number combination).

These settings should only be modified by your system administration manager.

Aston to Aston Communication using Ethernet.

5. It should be noted that the Aston Family of units uses the OS-9/NFM protocol for transferring data between units (not TCP/IP). This allows all files and devices on any remote system to be accessed in the same manner as if they were on a local machine, and the data remains in 'Aston' format.

The OS-9/NFM protocol uses a combination of the node number and network name to identify the unit, and it is transmitted along the Ethernet as RAW Data. As the TCP/IP address is not used, the Subnet Mask can not be used to restrict the access between Aston units.

Aston MAC Address

6. The MAC Address for the Aston Motif Family of products is created from the serial number of the unit as follows:

00A08B00<Serial Number(Upper Byte)><Serial Number(Lower Byte)>

All this information is in HEX, so if the Serial Number of the Unit was 19123, which is 4AB3 in HEX, the MAC Address would then be:

00A08B004AB3

This is a unique address that System Administrators can use for access permissions on a large network.

Additional information can be found in the Version 5.0 Operators Manual, in chapter 9.

When the software installation is complete, the unit should be tested to ensure that it functions correctly.

If a System Removable Cartridge has been created, a new one should be made to incorporate the new Ethernet option. Please create and test a new one before overwriting or deleting the old one, just in case of any problems.