

VERY LARGE TELESCOPE

<p>ASM LCU, Hardware Signal Assignment.</p>
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CHANGE RECORD.

Issue:	Date:	Section/Page affected:	Comments:
Draft 1	18 Dec. 1996	All:	First draft.
Draft 2	15 Jan. 1997	Ch. 1: All:	'DIMM' changed into 'Seeing Monitor' DB update, see ch. 2
Draft 3	3 Mar. 1997	Ch. 2, 3, 5:	DB update, see ch. 2

TABLE OF CONTENTS

1. INTRODUCTION	4
1.1. FIELD UNITS	4
1.2. FIELD METHODS.....	4
2. CONFIGURATION INFORMATION	6
3. DIGITAL I/O SIGNALS	6
3.1. DIO BOARD 0, PORT 4 THROUGH 7.....	6
3.2. DIO BOARD 0, PORT 0 THROUGH 3.....	7
4. ANALOG I/O SIGNALS.....	8
4.1. ANALOG I/O BOARD 0, OUTPUT SIGNALS.....	8
4.2. ANALOG I/O BOARD 0, INPUT.....	8
5. GEN PURPOSE I/O SCREW TERMINAL ASSIGNMENT	8

1. INTRODUCTION

This document describes the hardware signal assignment for the VLT Astronomical Site Monitor LCU.

The Seeing Monitor is the biggest unit that is controlled by this LCU. The telescope has an A1 (Eta) and A2 (Theta) axis. These are to a high extend identical from a functional point of view. Therefore, most of the signals apply to each of them. This is noted in the column 'Axis' according the following table:

Axis	Description
A1	Signal is used in A1 (ETA) axis.
A2	Signal is used in A2 (THETA) axis.
-	Not defined (spare signal).
NA	Not applicable

1.1. FIELD UNITS

The column 'Field unit' shows the code of the unit where the signal is interfaced to:

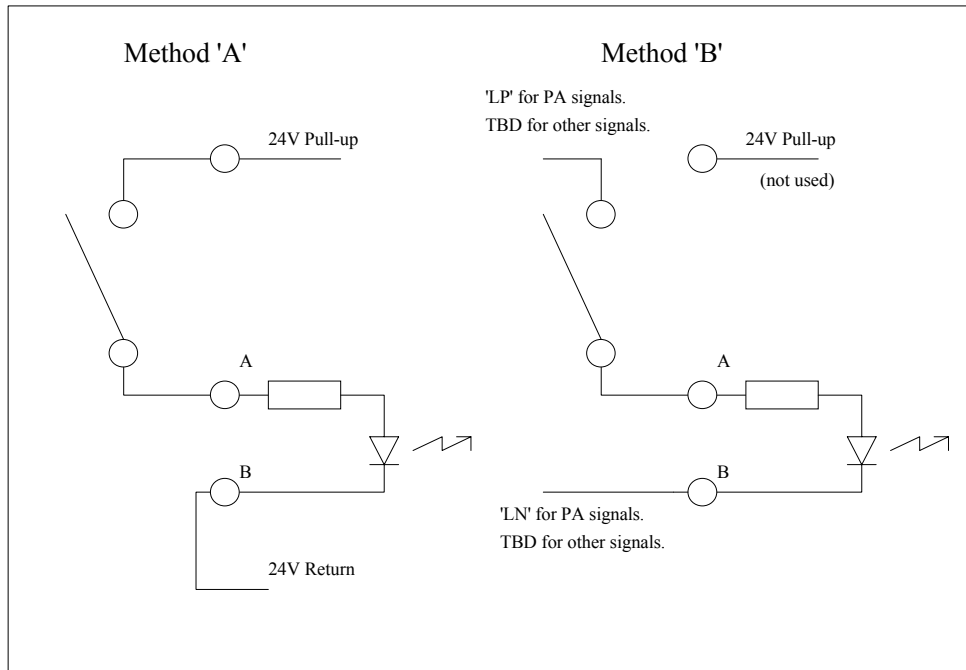
Field unit	Description
??	Not yet defined.
16in	16 input optocoupler board.
8in8out	8 input / 8 output optocoupler board.
ampchas	Amplifier chassis
intl	Interlock.

1.2. FIELD METHODS

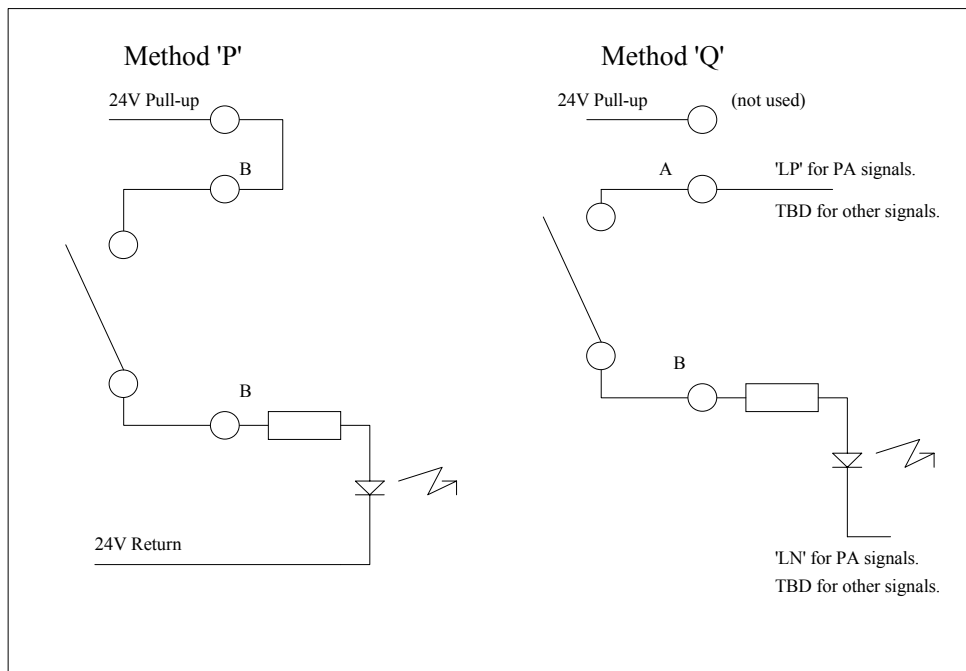
The column 'Field method' shows the code of the interface method:

Field method	Description
-	Signal is analog or does not use screw terminals: see schematic diagram for connection method.
??	Not yet defined.
A	Dig input, source type, use 24V supply of LCU.
A?	Probably method 'A', to be confirmed.
B	Dig input, source type, use 24V supply of the field. For PA signals: LP and LN.
B?	Probably method 'B', to be confirmed.
P	Dig output, source type, use 24V supply of LCU.
P?	Probably method 'P', to be confirmed.
Q	Dig output, source type, use 24V supply of the field. For PA signals: LP and LN.
Q?	Probably method 'Q', to be confirmed.

This is also shown in the plots below:



LCU input signals.



LCU output signals.

2. CONFIGURATION INFORMATION

All LCU i/o signals, that are referenced in this document, are retrieved from a Database. Changes in the Database affect therefore directly the contents of this document.

The table below shows the Change Record of the Database as it is at the time of printing of this document.

Issue	Date	Affected	Comment
Draft 1	17 Dec 1996	All	First draft.
Draft 2	3 Jan 1997	1. Dig signals 2. Query 's/w assignment.	1. High true / low true added. 2. Output sorted in dig and ana signals.
Draft 3	14 Jan. 1997	1. Signals 2. Query's	1. N/S sensing added. 2. 'Other signals' added
Draft 4	3 Mar. 1997	1. Signals	1. AxVSI: logic sense inverted. AxILRANGEI*: 2 signals added.

3. DIGITAL I/O SIGNALS

3.1. DIO BOARD 0, PORT 4 THROUGH 7

No signals yet.

3.2. DIO BOARD 0, PORT 0 THROUGH 3.

SignalName	Axis	Bit	Logical Def	H/W assignm ent (P2)	H/W 9921-16 conn	H/W 9921-16 pin	Field unit	Field metho d
LSSOUTH*	NA	17	Port2/Bit1	A31	P2	45	8in8out	
LSNORTH*	NA	16	Port2/Bit0	A32	P2	47	8in8out	
ACRO0BIT15O	-	15	Port1/Bit7	B17	P1	17	8in8out	
ACRO0BIT14O	-	14	Port1/Bit6	B18	P1	19	8in8out	
ACRO0BIT13O	-	13	Port1/Bit5	B19	P1	21	8in8out	
ACRO0BIT12O	-	12	Port1/Bit4	B20	P1	23	8in8out	
ACRO0BIT11O	-	11	Port1/Bit3	B21	P1	25	8in8out	
ACRO0BIT10O	-	10	Port1/Bit2	B22	P1	27	8in8out	
A2ILENABO*	A2	9	Port1/Bit1	B23	P1	29	8in8out	
A1ILENABO*	A1	8	Port1/Bit0	B24	P1	31	8in8out	
A2ILRANGEI*	A2	7	Port0/Bit7	B25	P1	33	8in8out	
A2VSI*	A2	6	Port0/Bit6	B26	P1	35	8in8out	
A2ILPAPOWI*	A2	5	Port0/Bit5	B27	P1	37	8in8out	
A2EPSELI*	A2	4	Port0/Bit4	B28	P1	39	8in8out	
A1ILRANGEI*	A1	3	Port0/Bit3	B29	P1	41	8in8out	
A1VSI*	A1	2	Port0/Bit2	B30	P1	43	8in8out	
A1ILPAPOWI*	A1	1	Port0/Bit1	B31	P1	45	8in8out	
A1EPSELI*	A1	0	Port0/Bit0	B32	P1	47	8in8out	

4. ANALOG I/O SIGNALS

4.1. ANALOG I/O BOARD 0, OUTPUT SIGNALS

SignalName	Axis	Signal	Signal + (P2)	Signal - (P2)	GND (P2)	Field unit
A1VREFO	A1	1	a32	c32	not avail.	ampchas
A2VREFO	A2	0	a31	c31	not avail.	ampchas

4.2. ANALOG I/O BOARD 0, INPUT

SignalName	Axis	Signal	Signal + (P2)	Signal - (P2)	GND (P2)	Field unit
A1IMONI	A1	15	a30	c30	not avail.	ampchas
A2IMONI	A2	14	a29	c29	not avail.	ampchas

5. GEN PURPOSE I/O SCREW TERMINAL ASSIGNMENT

SignalName	Axis	Field unit	Board	Bit	H/W 9921-16 conn	Screw A	Screw B	24V pullup	Field method
LSSOUTH*	NA	8in8out	/acro0	17	P2	P1-15	P1-7	P1-23	
LSNORTH*	NA	8in8out	/acro0	16	P2	P1-16	P1-8	P1-24	
ACRO0BIT15O	-	8in8out	/acro0	15	P1	P3-9	P3-1	P3-17	
ACRO0BIT14O	-	8in8out	/acro0	14	P1	P3-10	P3-2	P3-18	
ACRO0BIT13O	-	8in8out	/acro0	13	P1	P3-11	P3-3	P3-19	
ACRO0BIT12O	-	8in8out	/acro0	12	P1	P3-12	P3-4	P3-20	
ACRO0BIT11O	-	8in8out	/acro0	11	P1	P3-13	P3-5	P3-21	
ACRO0BIT10O	-	8in8out	/acro0	10	P1	P3-14	P3-6	P3-22	
A2ILENABO*	A2	8in8out	/acro0	9	P1	P3-15	P3-7	P3-23	
A1ILENABO*	A1	8in8out	/acro0	8	P1	P3-16	P3-8	P3-24	
A2ILRANGEI*	A2	8in8out	/acro0	7	P1	P1-9	P1-1	P1-17	
A2VSI*	A2	8in8out	/acro0	6	P1	P1-10	P1-2	P1-18	
A2ILPAPOWI*	A2	8in8out	/acro0	5	P1	P1-11	P1-3	P1-19	
A2EPSELI*	A2	8in8out	/acro0	4	P1	P1-12	P1-4	P1-20	
A1ILRANGEI*	A1	8in8out	/acro0	3	P1	P1-13	P1-5	P1-21	
A1VSI*	A1	8in8out	/acro0	2	P1	P1-14	P1-6	P1-22	
A1ILPAPOWI*	A1	8in8out	/acro0	1	P1	P1-15	P1-7	P1-23	
A1EPSELI*	A1	8in8out	/acro0	0	P1	P1-16	P1-8	P1-24	