



TS2000

Model No: 23031999

Field Cables

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Revisions.

Table 1 Revisions to this document.

Revision No.	Date	Details
1	03/08/1999	Initial documentation.

Amendments.

Table 2 Amendments to this document.

Amendment No.	Date	Details
1	03/22/2001	Removed incomplete resolver cable type.

Introduction

This document describes the Functions from the Reference Supply to the Motor Control Unit (MCU) for the Tracking System that this manual accompanied.

Compatibility

As MCU's vary from antenna to antenna, information on this cable should not be used for any other system other the one accompanied by this manual.

Construction

The ATCU uses multiple sampling on its inputs to prevent glitch's from affecting the system. These cables should be screened to minimise noise (glitches) from causing false alarm conditions on the MCU or ATCU. If false alarm's are experienced Filter Capacitors and Bleed Resistors may need to be used. The Control Cable should be earthed at the MCU. The Antenna Limits should be earthed at the ATCU. The length of the cable run and the operating environment will determine how susceptible the system is to noise. Installations with cable runs of 70 meters are known to operate well.

Table 3 Control Cable

This cable connects the Relays in the ATCU to the MCU so that we can control the motors.

Pin No.	SIGNAL	Pin No.
"J6 AZ / EL Motor Control"		"MCU INPUT"
25Way Plug		25Way Plug
1	No Function	1
2	Slew CM (Relay 4)	2
3	Slew N/O (Relay 4)	3
4	Slew N/C (Relay 4)	4
5	No Function	5
6	Control CM (Relays 5,6,7,8)	6
7	No Function	7
8	Emergency Stop N/C (Relay 1)	8
9	Emergency Stop CM (Relay 1)	9
10	Emergency Stop N/O (Relay 1)	10
11	Emergency Stop CM (Relay 1)	11
12	Az Direction N/O (Relay 8)	12
13	Az Direction CM (Relay 5,6,7,8)	13
14	AZ Enable N/O (Relay 7)	14
15	Az Enable CM (Relay 5,6,7,8)	15
16	EI Direction N/O (Relay 6)	16
17	EI Direction CM (Relay 5,6,7,8)	17
18	EI Enable N/O (Relay 5)	18
19	EI Enable CM (Relay 5,6,7,8)	19
20	No Function	20
21	No Function	21
22	No Function	22
23	No Function	23
24	No Function	24
25	No Function	25

Table 4 Antenna Limits Cable

This cable connects the inputs of the ATCU to the Outputs of the Motor Control Unit.

Pin No.	SIGNAL	Pin No.
"P6 Antenna Limits"		"MCU OUTPUT"
25Way Socket	Screened 25 core Cable	25Way Plug
1	Chassis	1
2	Az CW Limit (Bit 0)	2
3	AZ CW CM (Bit 0)	3
4	Az CCW Limit (Bit 1)	4
5	Az CCW CM (Bit 1)	5
6	EI UP Limit (Bit 2)	6
7	EI UP Limit CM (Bit 2)	7
8	EI DOWN Limit (Bit 3)	8
9	EI DOWN Limit CM (Bit 3)	9
10	No Function	10
11	No Function	11
12	No Function	12
13	No Function	13
14	No Function	14
15	Manual Control (Bit 4)	15
16	Remote/Local Status CM (Bit 4)	16
17	Emergency Stop (Bit 5)	17
18	Emergency Stop CM (Bit 5)	18
19	Logic Supply Sense (Bit 6)	19
20	Logic Supply Sense CM(Bit 6)	20
21	Spare Bit 7	21
22	Spare Bit 7 CM	22
23	No Function	23
24	No Function	24
25	No Function	25

Glossary

N/C.

Indicates the Normally Closed Connection on a relay.

N/O.

Indicates the Normally Open Connection on a relay.

CM.

Indicates the Common Pin on the relay.

No Function.

This indicates that there is no electrical Function in the device on that pin. The core may still exist in the cable even though the device has a No Function designator.

ACU

Antenna Control Unit, generally not used in TUNRA Documentation.

ATCU

Antenna Tracking Control Unit, This is similar to ACU, but with the addition of the word Tracking. Intended to indicate that the unit actively builds models of the satellites orbit.

Resolver

An Electro Mechanical device that electrically encodes the physical angle of the Antenna and or Polariser element/s.

Synchro

Same as a Resolver but a differs in electrical format.

Reference Supply

This is the device that provides the standard pin outs to the real world and the oscillator signal required by the resolvers / synchros.

TS2000

Is the name of the tracking system, it consists of an ATCU, Reference Supply and Cable set.

CMU

Control & Monitoring Unit. Provides the HMI (Human Machine Interface).

MCU

Motor Control Unit is the enclosure that contains the power electrics. Power the motors that move the Antenna Structure.

Bleed Resistor

A resistor connected in parallel with a capacitor to prevent it holding its charge.