Communication Printed Circuit Board

Notice

This module is one of a series of modules that describe the
components of the MICROLOK II system.

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Revision History

REV.	ISSUE DATE	REVISION DESCRIPTION
1	July 2009	Initial Release.
2	October 2009	Section 1.7 added. Revised Figure 1–2.

1. COMMUNICATION PCB

The Communication PCB allows a MICROLOK II system to connect directly to an Ethernet network by means of two Ethernet ports. The Ethernet ports may be used individually for different communication links or may be paired on the same link for use as a redundant network.

The Communication PCB (ASTS USA part number N17066403) plugs into a MICROLOK II cardfile linking the MICROLOK II CPU Board to external equipment via two Ethernet ports. The Communication PCB contains its own microprocessor.

1.1. User Interface

The front panel contains one DB9 connector, a reset button, and six LEDs. See Figure 1–1.

- The DB9 connector is used for factory diagnostic testing.

- The reset button resets the Communication PCB.

The LEDs provide the following indications:

- ETH1 - Ethernet Port 1 activity. Flashes when there is activity on Ethernet Port 1.

- RESET - Communication PCB reset indication. Flashes when the PCB is in reset mode.

- A – Flashes when the executive has successfully booted.

- B – Flashes when the executive has successfully booted.

- C – Flashes when the executive has successfully booted.

- ETH2 - Ethernet Port 2 activity. Flashes when there is activity on Ethernet Port 2.
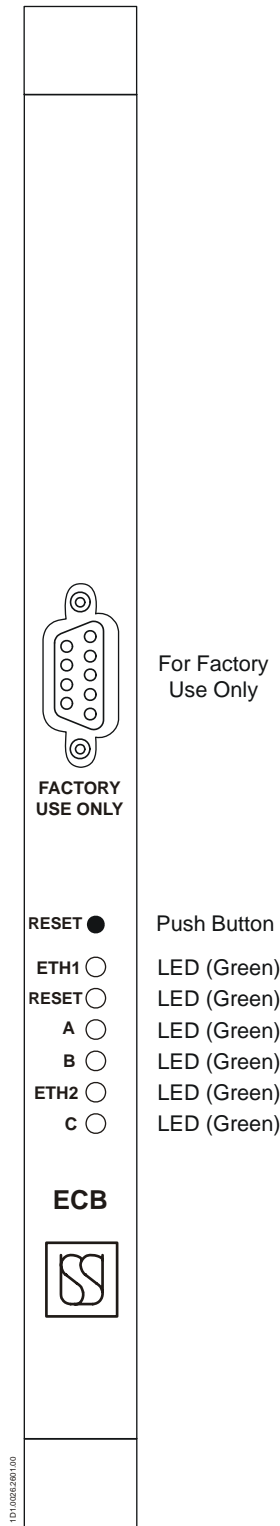
Figure 1–1.   Communication PCB Front Panel Detail

1.2. I/O Interface

The Communication PCB interfaces through an external board connector (ASTS USA Part Number N39908001). See Figure 1–2. The connector contains address selection jumpers (SW2, SW3, and SW4) and two RJ45 jacks (ETH1 and ETH2) for the Ethernet ports. This allows a standard Ethernet cable to be plugged directly into the back of the MICROLOK II cardfile.
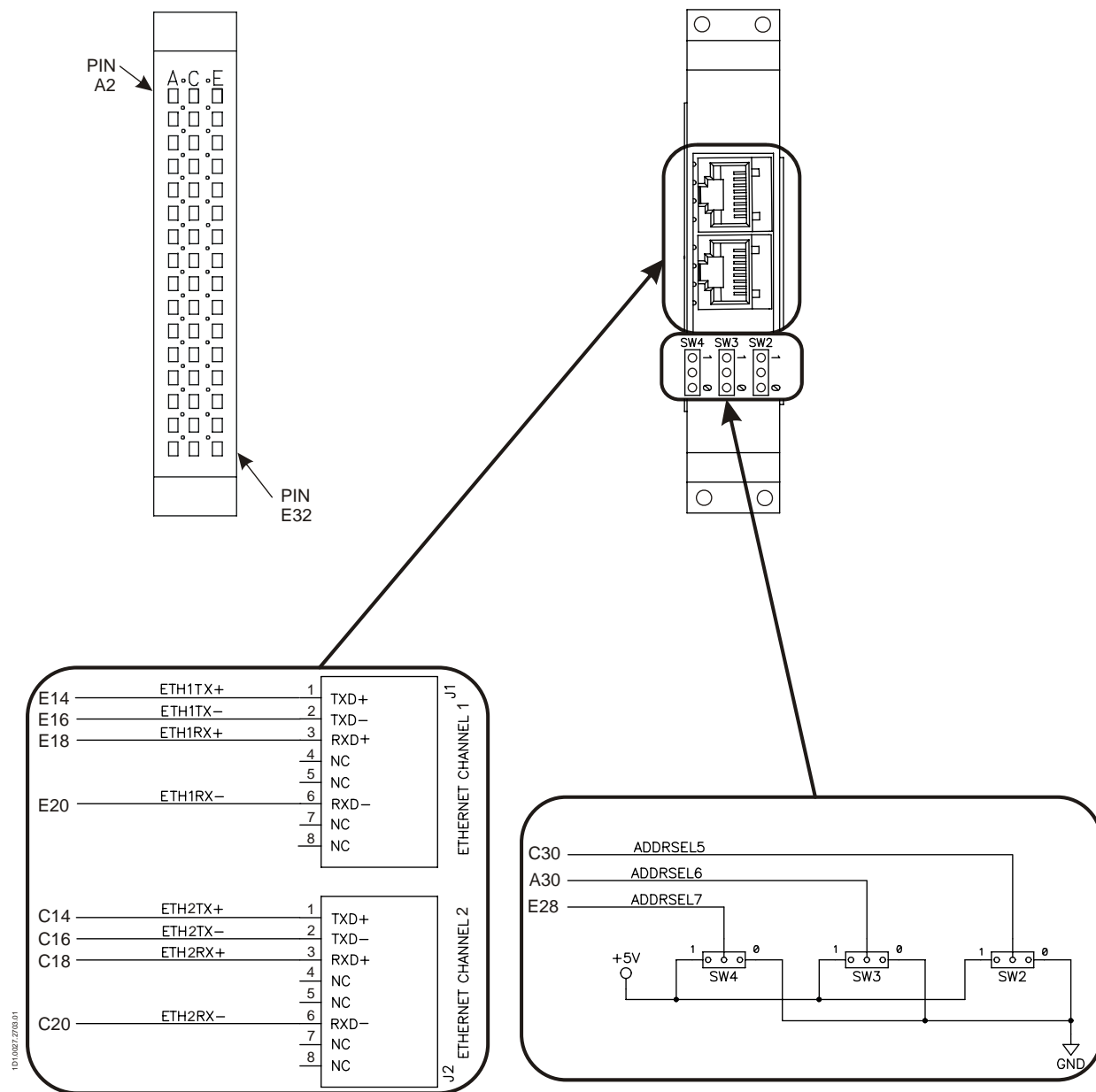
Figure 1–2.   Communication PCB Connector (part number N39908001)

1.3. PCB Keying

Each type of ASTS USA PCB has a different combination of six keying fingers.

Keying fingers are designated by ASTS USA. Their purpose is to ensure that the PCB is being inserted into its proper cardfile slot. Therefore, keying tabs must not be removed or altered by the user. Table 1–1 lists the keying for the Communication PCB.

Table 1–1.   PCB Keying

PRINTED CIRCUIT BOARD	PART NO.	KEYING PLUG LOCATION											
		1	2	3	4	5	6	7	8	9	10	11	12
Communication PCB	N17066403	✔		✔			✔	✔	✔				✔

The "✔" in Table 1–1 indicates a keying tab removed on the PCB connector and a keying plug installed on the motherboard connector. Correspondingly, no entry in the table indicates a keying tab <u>not</u> removed on the PCB connector and <u>no</u> keying plug installed on the motherboard connector (See Figure 1-3).
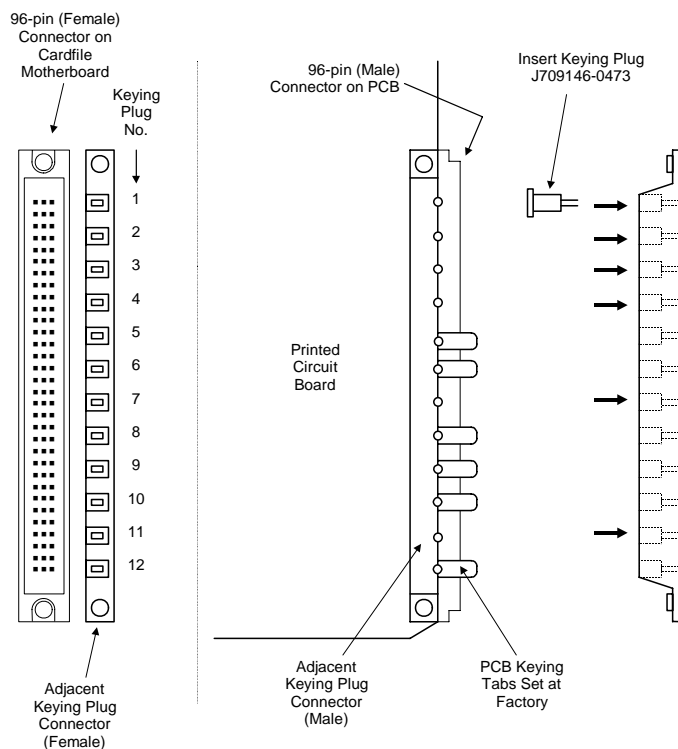
Figure 1-3.   Typical Keying Tab and Pin Arrangement

1.4. System Cardfiles

The systems that support the use of Communication PCB listed in Table 1-2.

Table 1-2.   Communication PCB System Applications

US&S PCB PART NO.	APPLICABLE CARDFILES					
	MICROLOK II	**MICROLOK II HB**	**END POINT**	**LED12 INTERMEDIATE**	**I-LOK**	**GENISYS II**
N17066403	✓					

1.5. Configuration Options

This board is defined under the Interface Section – LOCAL Sub-Section of the application program.

The board may be Enabled/Disabled via the MICROLOK II Development System. This is the only software interface available for this board.

1.6. Software Compatibility

Refer to the MICROLOK II Application Programming Guide to verify that this PCB is compatible with the MICROLOK II executive software.

1.7. Noise Filtering

It is recommended that a CMF-101 Common Mode Filter (ASTS USA part number N4515522001) should be installed on the input power lines to the Microlok II cardfiles that contain a Communication PCB. The CMF-101 filters out common mode noise on the battery-supplied power input lines. The filter should be mounted as close to the Microlok cardfile as possible. The input wires (dirty) and output wires (clean) should be physically separated from each other. Figure 1-4 shows how the CMF-101 is to be wired in the power input circuit.
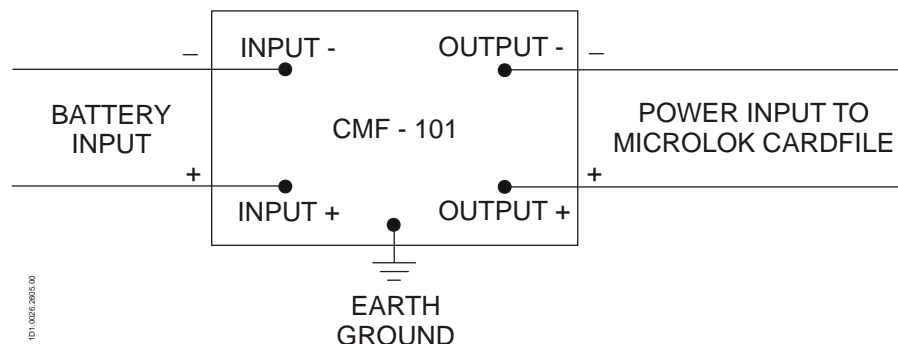
Figure 1-4.   CMF-101 Wiring Diagram

End of Module