GDC 087R702-001
Issue 1, February 1997

Installation and Operation

UAS 7000

Network Interface Unit
Model NIU 7001

General DataComm

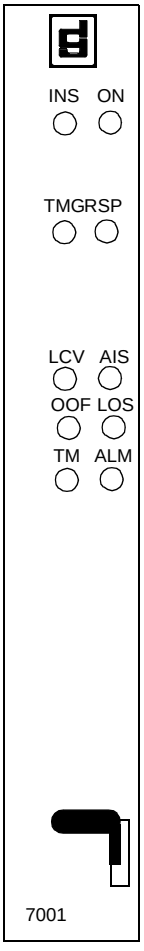
NIU 7001

The T1 NIU (Network Interface Unit) 7001 provides a connection to T1 and Fractional T1 terminated services. It is used as the network interface to the shelf backplane. Each 7001 supports a single T1 line. The NIU 7001 is a single slot card that may be installed in single or multiple shelves or enclosures. Each of the T1 interfaces supports SF or ESF multiframe, with either AMI or B8ZS line coding.

The unit is fully network managed by the shelf resident GDC SpectraComm Manager (SCM), and an associated SNMP manager.

Other features are:

- can be mixed or matched with other SpectraComm UAS data sets in the same shelf. ***A 7002 cannot reside in the same system.***
- supports concentrator for central termination function.
- full T1s can be terminated in a single shelf; up to four NIUs may be supported in a single or dual shelf.
- multiplexes Drop-Side Interface Units (DIUs) such as the 7616 via the shelf backplane.

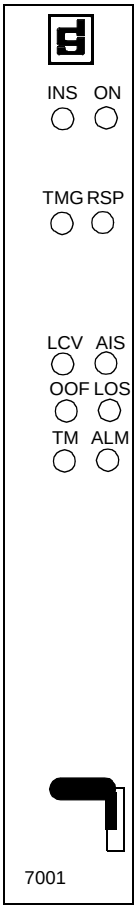


Front Panel Indicators

Table 1-1 describes the front panel indicators.

Table 1-1 Front Panel Indicators

Indicators	
LED	**Use**
General	
INS	In Service. Green - constant = Basecard in service.
ON	Power ON. Green - power is applied
TMG	Timing. Green - Lights when supplying 8 k timing source to shelf.
RSP	Response. Green - Lights upon transmission of a backplane NMS command.
Network	
LCV	Line Code Violation. Red - Lights upon reception of line code violation in the received T1 data.
AIS	Alarm Indication Signal. Red - Lights upon the reception of a defect condition from the received T1 signal.
LOS	Loss of Signal. Red - Lights upon absence of an T1 signal.
OOF	Out of Frame. Red - Lights upon detection of loss of selected T1 framing.
Status	
TM	Test Mode. Red - Lights when unit is undergoing a diagnostic test. Flashes if errors occur in a self-test pattern recognition.
ALM	Alarm. Red - Lights when any alarm threshold is exceeded.



Options

The NIU 7001 has only one option, a normal or redundant selection.

Refer to *Figure 1-1*.

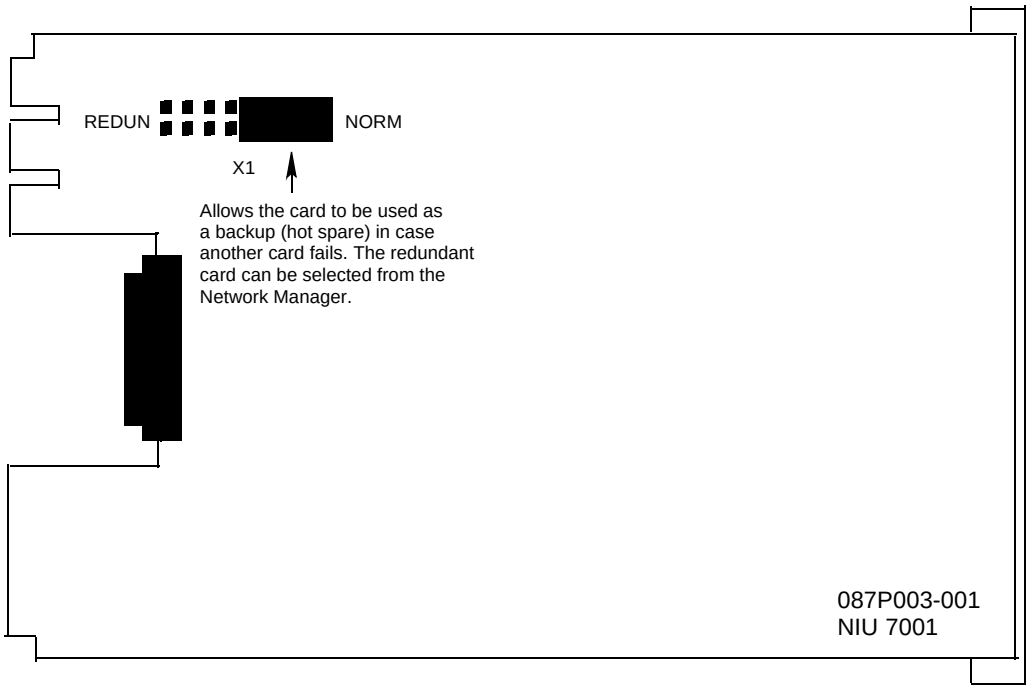


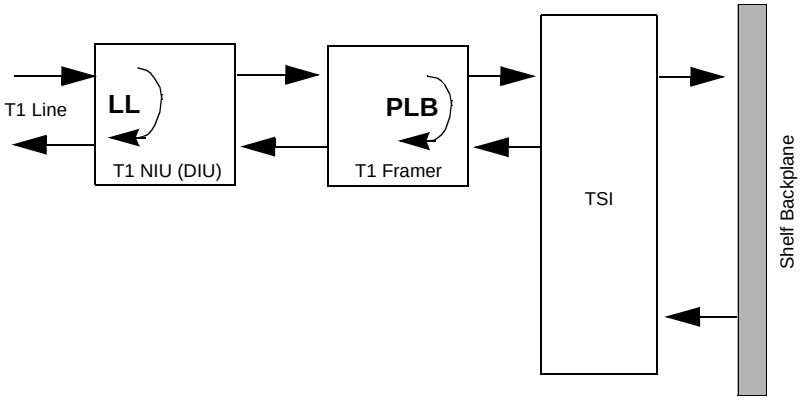
Figure 1-1 NIU 7001

Tests

The NIU 7001 performs the following diagnostic loopbacks:

- Line loopback (LL) - Loops the Telco transmit and receive paths back towards the T1 network.
- Payload loopback (PLB) - Loops the recovered T1 receive and transmit paths back towards the T1 network.

You may initiate these tests using UAS or Team 7000 network management. See *Figure 1-2*.



	Test	Source	Self-Test	Configuration
LL	T1 Line Loopback	UAS	------	Network
PLB	T1 Payload Loopback	UAS	------	Network

Figure 1-2 NIU 7001 Loopbacks - UAS

Table 1-2 50-Pin Telco Mapping

Rear Panel 50-Pin "J" Nos.	Slot No.	7001			
		Transmit Tip	Transmit Ring	Receive Tip	Receive Ring
J17	1	28	3	26	1
	2	32	7	30	5
	3	36	11	34	9
	4	40	15	38	13
	5	44	19	42	17
	6	48	23	46	21
J18	7	28	3	26	1
	8	32	7	30	5
	9	36	11	34	9
	10	40	15	38	13
	11	44	19	42	17
	12	43	23	46	21
J19	13	28	3	26	1
	14	32	7	30	5
	15	36	11	34	9
	16	40	15	38	13

Parts List and Specifications

Table 1-3 Parts List and Specifications

Parts List	
087P003-001	NIU 7001 module
Specifications	
Ambient Temperature (operating)	0 to 50° C
Humidity (operating)	5% to 95% (non condensation)
Altitude operating non-operating	 0 to 10,000 feet 0 to 40,000 feet
Interface	
Communication line	T1 digital carrier (non-load, staggered-twist ABAM, PIC, or pulp-insulated exchange-type cable, 19 to 26 gauge).
Line Impedance	100 ohm
Frequency	1,544,000 bps ±50 bps
Pulse amplitude - with surge protection	2.40 to 3.60 V at 60° - may vary over a cycle of 60 Hz current.
Unbalance in height of adjacent negative and positive pulses	200 mV (maximum)
Width of output pulse (half amplitude)	324 nsec ± 45 nsec
Unbalance in width of adjacent negative and positive pulses	20 nsec (maximum)
Time between two consecutive pulses of opposite polarity	648 nsec ± 15 nsec (measured at half amplitude point of leading edges)
Maximum rise or falling time	100 nsec
Overshoot at trailing edge of pulse	10% to 30% of pulse amplitude
Line Build-Out	0, 7.5, 15, or 22.5 dB (selectable or automatic) at 772 kHz