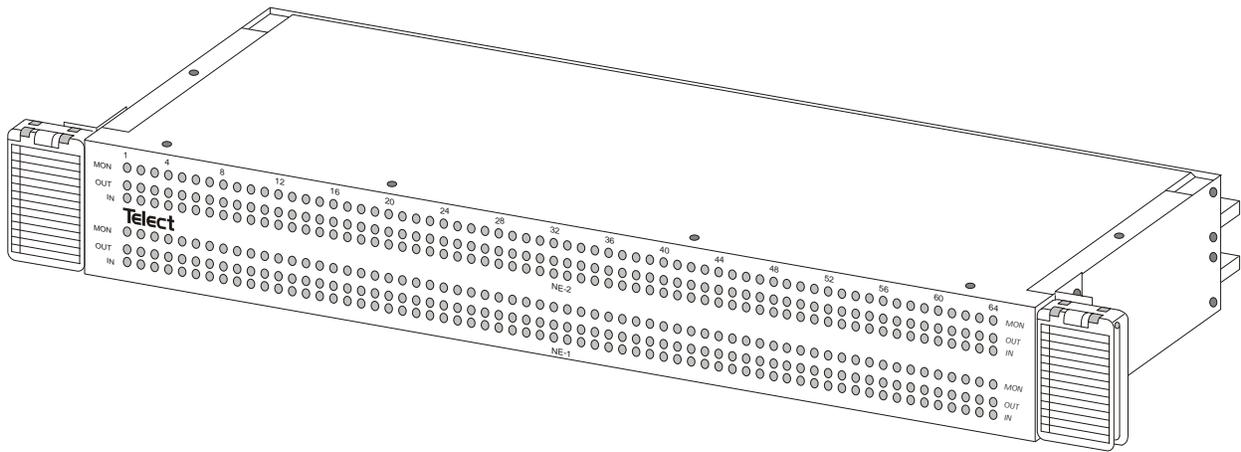


Telect[®]

CONNECTING THE FUTURE[®]



DIGITAL NETWORK INTERFACE-1B USER MANUAL

108891
Issue A Rev 2

Digital Network Interface 1-B User Manual
Document Number 108891
Issue A Rev 2
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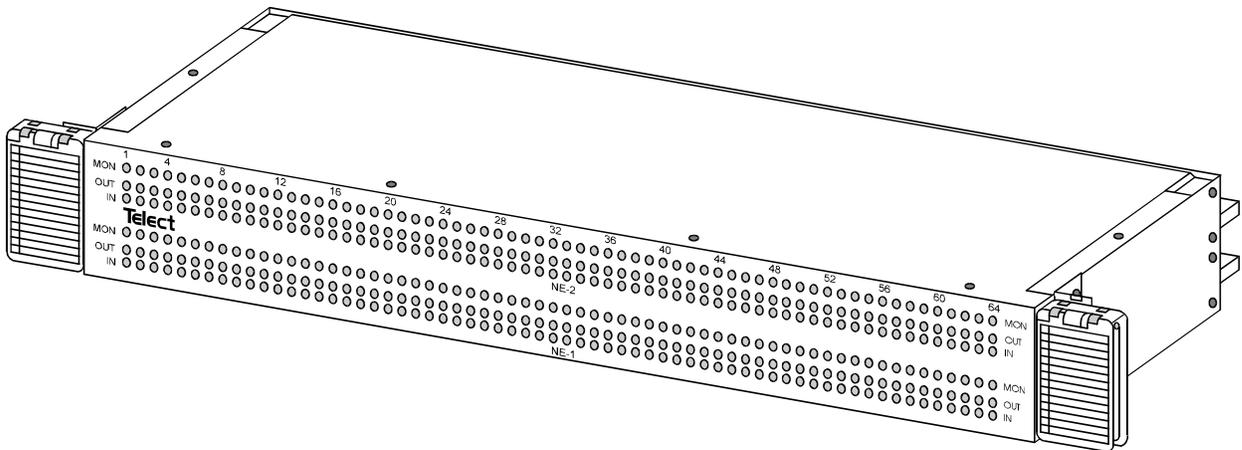
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Descriptions

DNI-1B

Telect's Bantam Digital Network Interface Panel—the DNI-1B, PN 010-7128-5001 (128 circuit) and 010-7112-5001 (112 circuit)—is a central interface point for networks that connect DS-1 signals from digital cross-connect system (DCS) circuits to network element (NE) circuits. As an extension to the backplane of DCS equipment, the DNI-1B allows circuit configuration changes, maintenance, and troubleshooting without disrupting DCS operation.



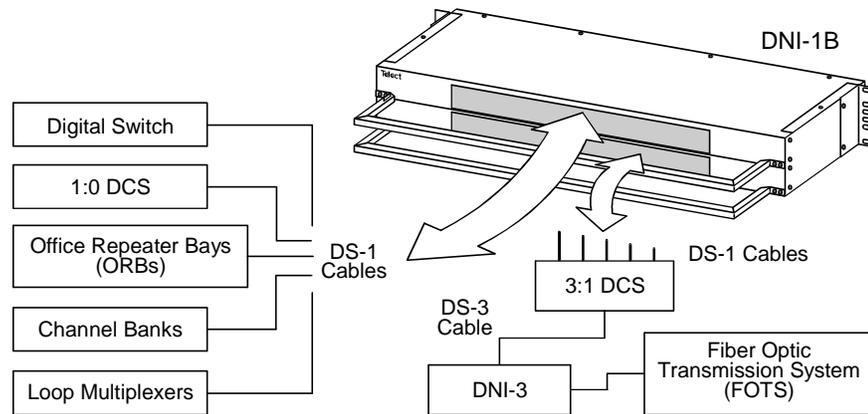
Capabilities

- High circuit densities
- Circuit migration, system expansion
- Compatibility with all E-1/T-1 signal types and system software
- Circuit patching, troubleshooting, and monitoring
- Installation verification
- Integrated cable management

Features

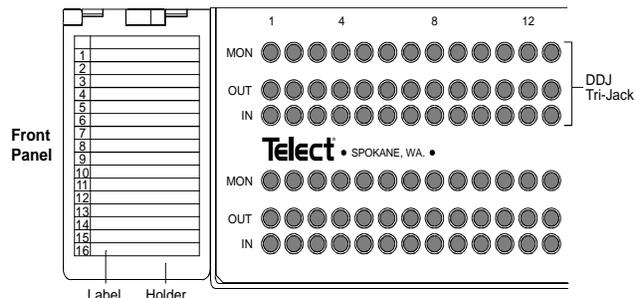
- DDJ™ tri-jacks for IN, OUT, and MON ports
- Each circuit has two tri-jacks—one for DCS (NE-1) and one for network element (NE-2) circuits
- Circuit designation labels
- Hinged designation holders
- Four wire-wrap termination points for both NE-1 and NE-2
- Two wire-management tie-down bars

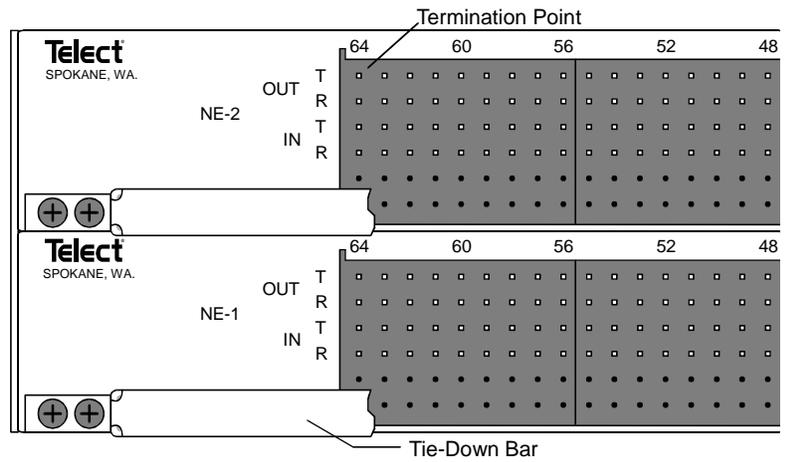
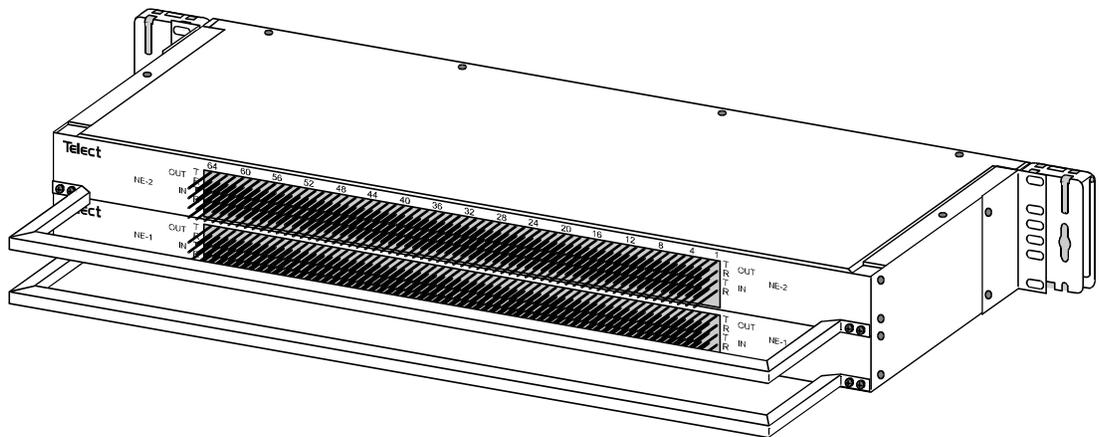
SYSTEM-LEVEL APPLICATIONS



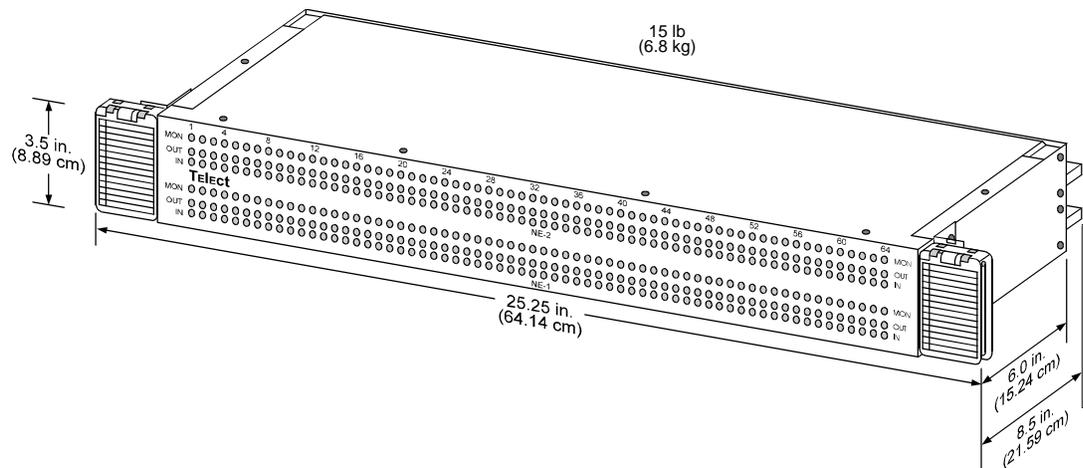
MAIN ASSEMBLIES

The DNI-1B allows maximum circuit density in EIA and WECO racks/bays. The 112-circuit version fits 19" (48.3 cm) racks/bays; the 128-circuit version fits 23" (58.4 cm) racks/bays. There are 56 sets of rear termination points in the 112-circuit version and 64 sets in the 128-circuit version.





PHYSICAL SPECIFICATION



2

Installation

INSTALLATION CONSIDERATIONS

Location and Space

DNI-1B mounts flush into both unequal flange and equal flange (EIA or WECCO) racks/bays—the 112-circuit version in 19" (48.3 cm) bays, the 128—circuit version in 23" (58.4 cm) bays. Rack configuration is limited mainly by the number of cables a bay can accommodate. Telect recommends a maximum of 22 DNI-1B panels per bay:

- Allows easy access for maintenance.
- Keeps the panels within reach.
- Provides enough room for cable routing.

Here are the DNI-3 space requirements:

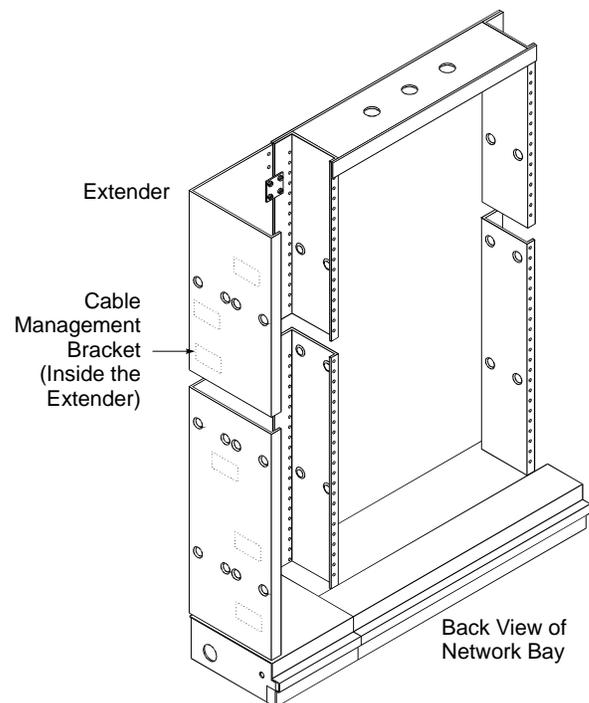
DCS Terminations		Panels	Total Cables	Cable Space Needed per Side of Bay (in. ²)	EIA Bay Spaces Required
128	112				
1–64	1–56	1	8	2.48	2
65–128	57–112	2	16	4.96	4
129–192	113–168	3	24	7.44	6
193–256	169–224	4	32	9.92	8
257–320	225–280	5	40	12.40	10
321–384	281–336	6	48	14.88	12
385–448	337–392	7	56	17.36	14
449–512	393–448	8	64	19.84	16
513–576	449–504	9	72	22.32	18
577–640	505–560	10	80	24.80	20

DCS Terminations		Panels	Total Cables	Cable Space Needed per Side of Bay (in. ²)	EIA Bay Spaces Required
128	112				
641–704	561–616	11	88	27.28	22
705–768	617–672	12	96	29.76	24
769–832	673–728	13	104	32.24	26
833–896	729–784	14	112	34.72	28
897–960	785–840	15	120	37.20	30
961–1024	841–896	16	128	39.68	32
1025–1088	897–952	17	136	42.16	34
1089–1152	953–1008	18	144	44.64	36
1153–1216	1009–1064	19	152	47.12	38
1217–1280	1065–1120	20	160	49.60	40
1281–1344	1121–1176	21	168	52.08	42
1345–1408	1177–1232	22	176	54.56	44
1409–1472	1233–1288	24	184	57.04	46
1473–1536	1289–1344	24	192	59.52	48
1537–1600	1345–1400	25	200	62.00	50
1601–1664	1401–1456	26	208	64.48	52
1665–1728	1457–1512	27	216	66.96	54
1729–1792	1513–1568	28	224	69.44	56
1793–1856	1569–1624	29	232	71.92	58
1857–1920	1625–1680	30	240	74.40	60
1921–1984	1681–1736	31	248	76.88	62
1985–2048	1737–1792	32	256	79.36	64
2049–2112	1793–1848	33	264	81.84	66
2113–2176	1849–1904	34	272	84.32	68
2177–2240	1905–1960	35	280	86.80	70
2241–2304	1961–2016	36	288	89.28	72
2305–2368	2017–2072	37	296	91.76	74

In the above table, the first shaded row is the capacity for a 7-ft bay. The second shaded row is the capacity for an 8-ft bay; the last shaded row is for an 11.5-ft bay.

Network Bay Extender Panel

Telect recommends network bay extender panels for cable management—two for each fully provisioned DNI-1B bay. The extender provides 81 square inches (522.6 square cm) of routing space (enough for 135 30-pair ABAM cables) and 9 cable management brackets to secure and channel the cables.



Tools and Equipment

No special tools or equipment are required.

INSPECTION

Compare the contents of the DNI-1B shipping container with the packing list. Call Telect if you are missing anything.

NOTE

Telect is not liable for shipping damage.

If the shipping container is damaged, keep it for the carrier's inspection. Notify the carrier and call Telect's Customer Service Department:

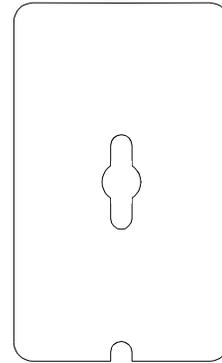
1-800-551-4567 or 1-509-926-6000

Keep the container until you have checked equipment operation. If you experience any kind of problem, call Telect's Customer Service Department. Use the original, undamaged container if you are instructed to return the DNI-1B to Telect.

INSTALLATION PROCEDURE

Mounting the DNI-1B

Step	Action
1.	Align the DNI-1B chassis mounting holes with the mounting holes of the network bay/rack.
2.	Install four mounting screws (two on each side) into the mounting holes but do not completely tighten them.
3.	Attach the hinged label holders to the front of the panel. <ol style="list-style-type: none"> Slip the eyehole in the center of the holder over the head of the top mounting screw. Slide the holder down on the shaft of this screw so that the slot in the bottom fits over the shaft of the bottom screw. Tighten both screws.



Cabling Procedure

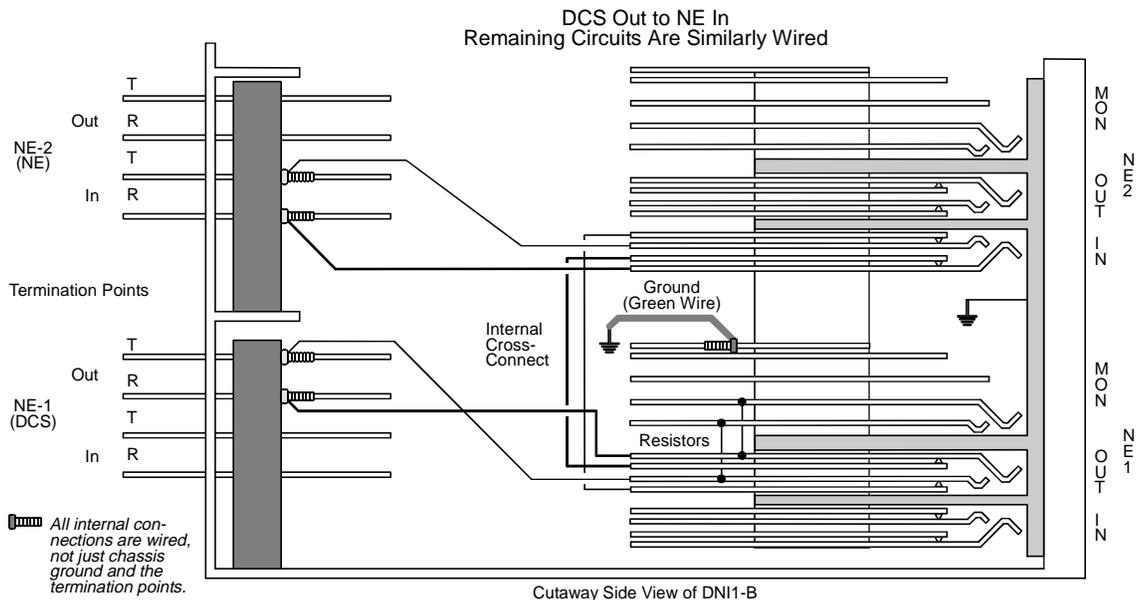
Step	Action
1.	Route the DCS IN cables to one side of the network bay. Tie-wrap the cables in place within the extender panel cable management brackets.
2.	Route the DCS OUT cables to the opposite side of the network bay; tie-wrap them the same way.
3.	Starting at the lowest DNI-1B panel in the bay/rack, lay the DCS IN cables over the lower tie-down bar and connect them to the NE-1 IN termination points.
4.	Secure the DCS IN cables to the tie-down bar.
5.	Go to the next DNI-1B panel up and connect those DCS IN cables. Continue the procedure, connecting all DCS IN cables.

6. Repeat Steps 2–5 for the DCS OUT cables, connecting them to the NE-1 OUT termination points.
7. Route the NE IN cables to the same side of the network bay as the DCS IN cables and the NE OUT cables to the same side as the DCS OUT cables. Tie-wrap the cables in place within the extender panel cable management brackets.
8. Repeat steps 2–6 for the NE cables, connecting the NE IN cables to the NE-2 IN termination points and the NE OUT cables to the NE-2 OUT termination points.
9. Identify circuits on the designation labels.

3 *Electrical Operation*

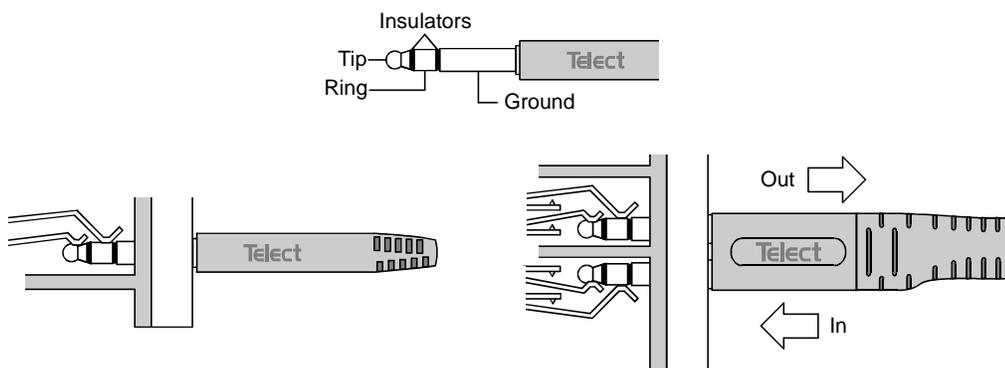
DCS wires attach to the lower four wire-wrap termination points on the rear of the DNI-1B panel (NE-1); the network element wires attach to the upper four points (NE-2). OUT (transmit) circuits attach to the upper pair of termination points; IN (receive) circuits attach to the lower pair.

Inside the DNI-1B, the DCS IN circuits are hard-wired to the NE OUT circuits and the NE IN circuits to the DCS OUT circuits (internal cross-connect, Tip-to-Tip and Ring-to-Ring):



Inserting a Bantam plug into the jack does the following:

Plug	Jack	Function
Single	NE-1 MON NE-2 MON	Accesses DCS OUT circuit Accesses NE OUT circuit
Dual Patch	NE-1 OUT/IN NE-2 OUT/IN	Patches DCS or NE circuit Patches DCS or NE circuit



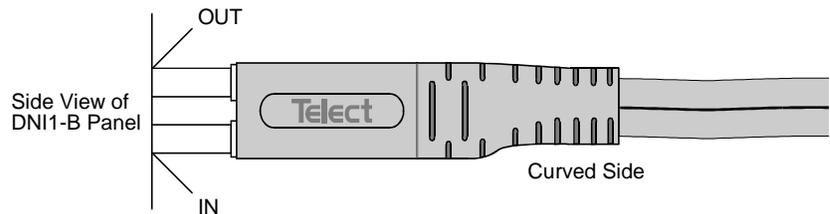
4

User Functions

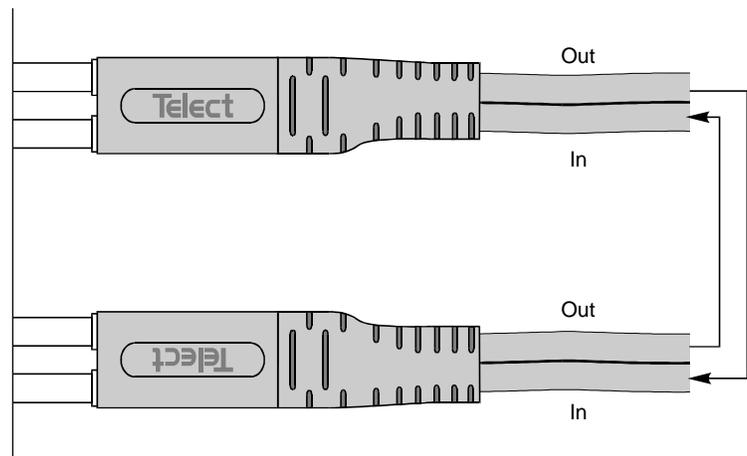
PATCHING

Step	Action
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1. Partially insert a dual Bantam patch-cord in the OUT and IN jacks of the appropriate NE-2 circuit on the front of the DNI1-B panel:



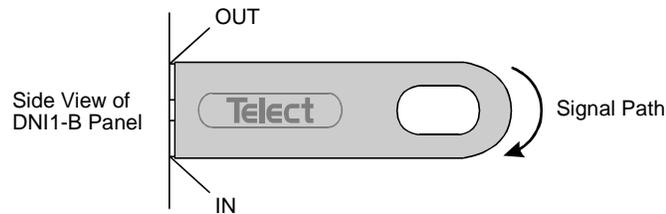
2. Twist the plug on the other end of the cord so that its curved side is in the opposite orientation—if the first plug's curved side is up, the second plug's must be down. This is how you connect the IN of one circuit to the OUT of another.



3. Partially insert the second plug in the OUT and IN jacks of the appropriate NE-1 circuit.
4. Simultaneously push both plugs fully into the jacks.

LOOPBACK

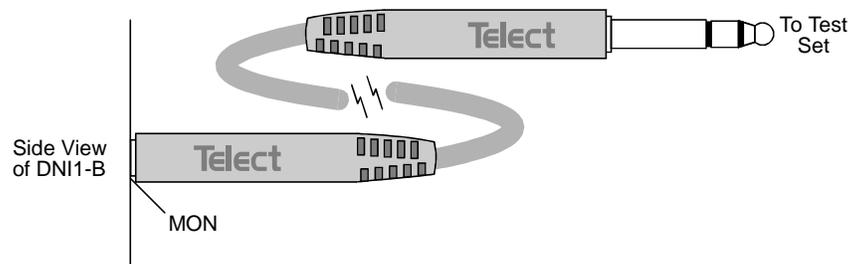
To temporarily loop an NE or DCS OUT port to its IN port, fully insert a Bantam looping plug into the jacks of the appropriate circuit.



MONITORING

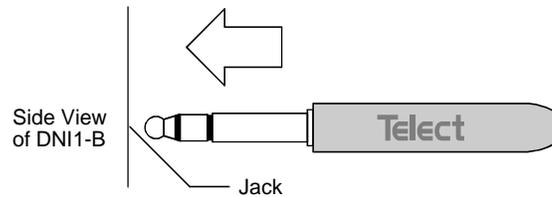
You can monitor NE and DCS circuit outputs from the front of the DNI-1B panel.

Fully insert a single Bantam patch-cord plug into the monitor jack of the appropriate circuit. Insert the cord's other plug into the test set you are using to monitor the circuit.



DROP-AND-INSERT TEST

Terminate a T-1 signal at the panel with a 100 ohm DNI-1B terminating plug. Fully insert the plug into the jack of the appropriate NE-1 or NE-2 circuit.



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Service

OWNER MAINTENANCE

Telect's DNI-1B does not need preventive maintenance.

IN CASE OF DIFFICULTY

If problems occur after initial installation, check all cable connections and the installation instructions in Section 2.

IN-WARRANTY SERVICE

Contact your Telect equipment distributor, or call a Telect Customer Service Representative:

1-800-551-4567

1-509-926-6000

Telect will repair or replace defective products within the limits of the warranty. See "Repacking for Shipment" in this section.

NOTE

Call a Customer Service Representative for a Return Material Authorization (RMA) before returning any equipment.

OUT-OF-WARRANTY SERVICE

The procedure for out-of-warranty service is the same as for in-warranty service, except that Telect charges a processing fee, and you must submit a Purchase Order along with a Return Material Authorization (RMA) before returning equipment. Call a Customer Service Representative for help getting these forms.

The processing fee guarantees a repair estimate and is credited against actual material and labor costs.

REPACKING FOR SHIPMENT

Step	Action
1.	Tag the equipment showing owner's name, address, and telephone number, together with a detailed description of the problem.
2.	Use the original shipping container if possible. If you do not have it, package the equipment in a way to prevent shipping damage. Include the RMA inside the container.
3.	Insure the package.

NOTE

Telect is not liable for shipping damage.

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