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Mobile Communications

GETC CONFIGURATION MANUAL
FOR
TERMINAL-SWITCH INTERFACE
NODE (TSIN) APPLICATIONS

Maintenance Manual

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LBI-38530

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SCOPE

The GETC trunking card is used in many applications. This manual tells how to configure the GETC for use as a TSIN (terminal-switch interface node). Supplemental information is provided in the GETC maintenance manual supplied with your system. When installing a replacement GETC into the system, be sure to note the software revision (group number) and revision number of the GETC.

GENERAL

The TSIN is the interface between the Downlink GETC from the Site to the Console Switch. Communication between the Downlink and the TSIN is handled over a phone line or microwave link, depending on distance and customer requirements. Figure 1 shows how the TSIN is used in a single-site trunked system. A Backup Downlink is shown in the figure, however, this may not be used in all systems. Figure 2 shows how the TSIN is used in a Multisite trunked system. The TSIN connects between the Downlink from the Multisite Coordinator and the Console Switch.

NOTE

When a backup TSIN is used, connect J19-6 together between each TSIN.

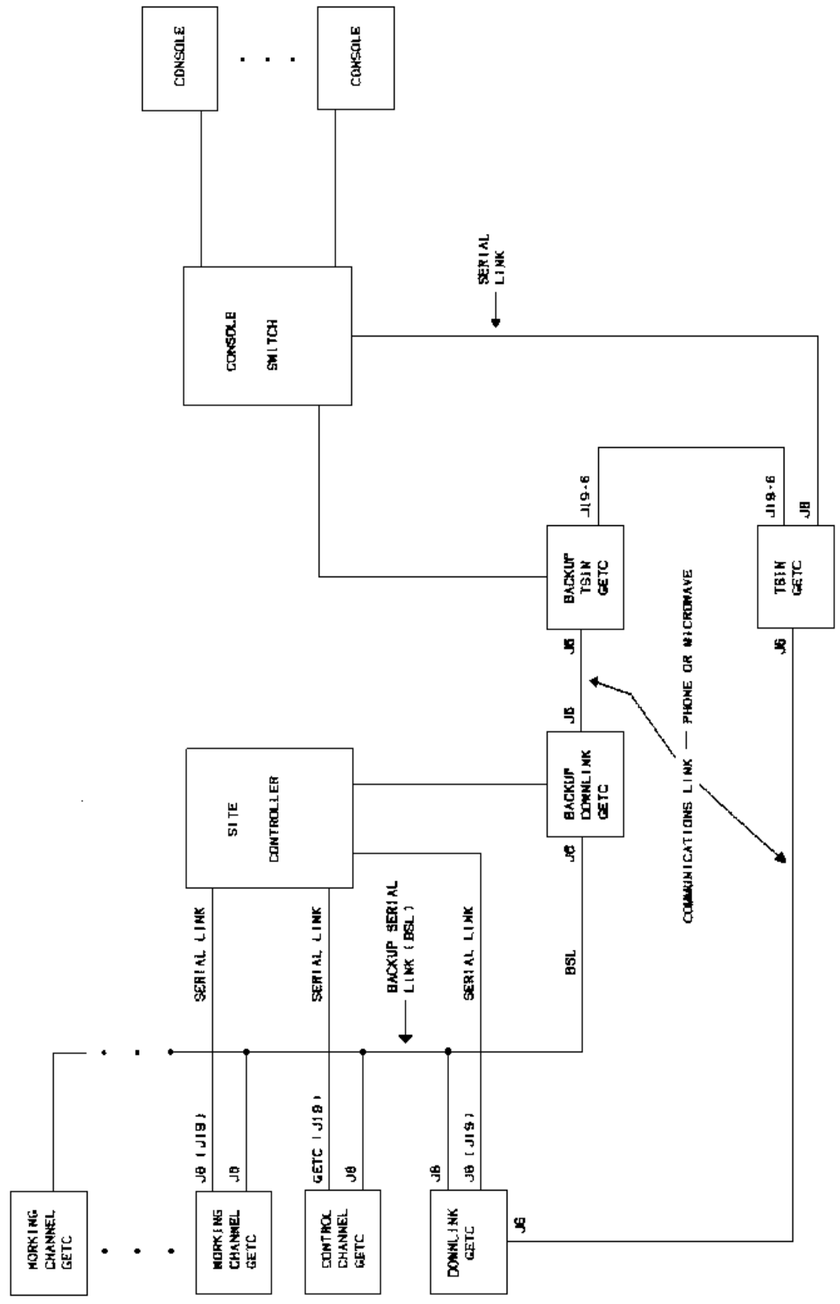

Figure 1 - TSIN Operation In Trunked System

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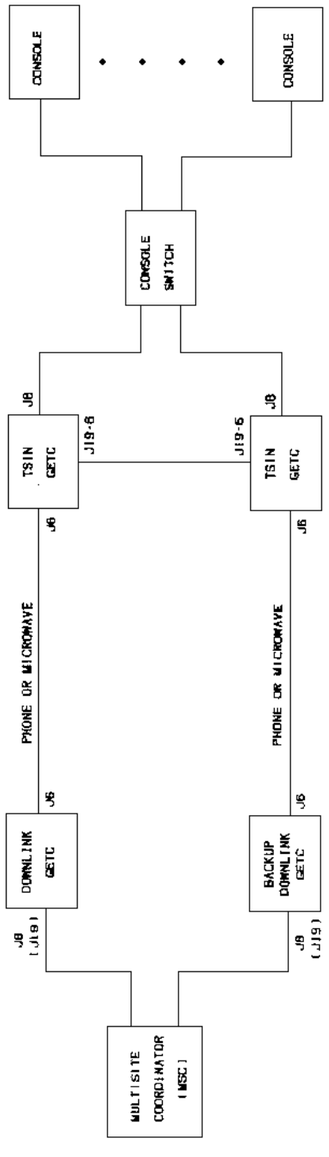

Figure 2 - TSIN Operation In Multisite Trunked System

JUMPER CONFIGURATION

The jumpers on the GETC logic board configure it for various applications. Jumper configurations for TSIN applications are listed in Table 1.

Table 1 - Jumper Configuration For TSIN GETC

JUMPER	POSITION	FUNCTION
P11	J11-1 & 2	Enables receive data from 9600 baud modem board.
P12	J12- 1 & 2	Enables CTS from BSL.
P13	J13-1 & 2	Route backup serial link tx output to backup serial link rx input.
P14	J14-1 & 2	Master site controller path selection enable (11/73-1SEL).
P15	J15-1 & 2	Backup site controller path selection disabled.
P16	J16-1 & 2	Backup serial link selection enable.
P17	J17-1 & 2	Low-speed data encode path enabled.
P18	J18-1 & 2	Low-speed data decode path enabled.
P20	J20-1 & 2	Enables COMB PTT IN/POWER SENSE from station.
P21	J21-1 & 2	Enables high-speed, data-acquisition rate control (HSACQ).
P22	J22-1 & 2	Use for 800 MHz applications.
P24	J24-1 & 2	Backup serial link selection (failsoft) enable.
P25	J25-1 & 2	Low-speed data encode path enable.
P26	J26-1 & 2	Use for 800 MHz applications.
P28	J28-1 & 2	Sync line input path enabled.
P29	J29-1 & 2	Enables site controller RX data on J8-4.
P30*	J30-2 & 3	Enables clock drive to uP.
P44	J44-1 & 2	Selects 256K or 512K PROM size.
P45	J45-2 & 3	Selects 6064 RAM.
P46	J46-1 & 2	Enables INT0.
P47	J47-1 & 2	Backup serial link select.
P48	J48-1 & 2	Backup serial link select.
P50	J50-1 & 2	Enables tone control for voted systems.
P51	J51-2 & 3	Morse code ID enabled.
P52	J52-1 & 2	TXD polarity select.
P53	J53-1 & 2	Selects non-inverted RXD data.
P54	J54-1 & 2	Enables control input to U15A (MODCNTL).
P55	OMIT	Disable WALSH bits.
P60	J60-1 & 2	Enables high-speed data path through data filter.
P61	J61-2 & 3	Selects 512K PROM size.
P62	J62-1 & 2	Selects 11 MHz modem chip (U4) clock frequency for 9600 baud data.
P63	OMIT	Sets TX data filter for 9600 baud.
P64	OMIT	Sets TX data filter for 9600 baud.

*Found only on 19D902104, Rev. C board.

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JUMPER	POSITION	FUNCTION
P65	OMIT	Sets TX data filter for 9600 buad.
P66	OMIT	Sets TX data filter for 9600 baud.
P67	J67-1 & 2	Enables receive telephone line termination (shunts with 600 ohms).
P68	J68-1 & 2	Enables delayed PTT.
P69	J69-1 & 2	Enables COMB PTT OUT.
P70	J70-1 & 2	Enables COMB PTT IN/POWER SENSE.
P71	J71-1 & 2	Configures telephone line modem RTS.
P72**	J72-1 & 2	Enables crystal oscillator for modem U19.
P73**	J73-1 & 2	Enables NOR gate U22B for PST applications.
**Found only on 19D902104, Rev. D board		

The locations of the jumpers on the 19D902104, Rev. C board are shown in Figure 3. The jumpers are not drawn in any particular configuration. Jumper locations on the 19D902104, Rev. D. board are shown in Figure 4.

PROGRAMMING

The TSIN uses an EEPROM (E^2PROM) to store information required for operation in a trunked system. The E^2PROM is installed in socket XU35 shown on the outline diagram. Programming of the E^2PROM is done at the factory. If a TSIN GETC is replaced in the field, the correct E^2PROM must be installed in XU35.

TSIN GETC SWITCH SETTINGS

The function for each of the TSIN GETC switches is described in this section.

SWITCH 1

Sections 1 thru 8 -- These switches may be in any position for TSIN operation.

SWITCH 2

Sections 1 thru 8 -- These switches may be in any position for TSIN operation.

SWITCH 3

Sections 1 thru 5 -- Used to define operating mode. Close all sections for TSIN operation.

Section 6 -- Sets default mode if backup TSIN is used. Set switch open for default active. Set switch closed for default backup. Each TSIN (backup & active) must have different switch settings.

Section 7 -- Switch may be in any position for TSIN operation.

Section 8 -- Switch may be in any position for TSIN operation.

FRONT PANEL INDICATORS

The front panel LED indicators are used to display the state of operation of the TSIN. Table 4 lists the indicators and their functions.

Table 4 - GETC Indicators

INDICATOR LED NUMBER		INDICATOR STATE	
		ON	OFF
L1	H7	Failure	Normal Operation
L2	H6	Voice Guard Operation	Normal Operation
L3	H5	Voice Guard Operation	Normal Operation
L4	H4	Voice Guard Operation	Normal Operation
L5	H3	Voice Guard Operation	Normal Operation
L6	H2	TSIN Operation	- -
L7	H1	Active TSIN	Backup TSIN

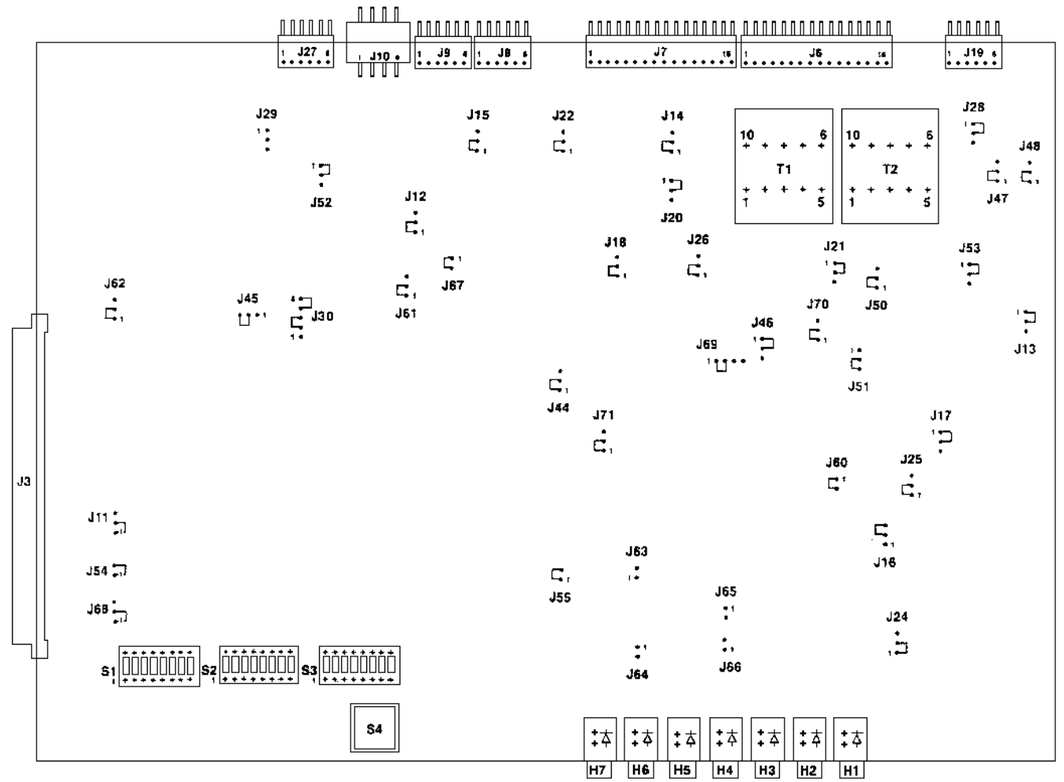

Figure 3 - Jumper Locations For 19D902104, Rev. C

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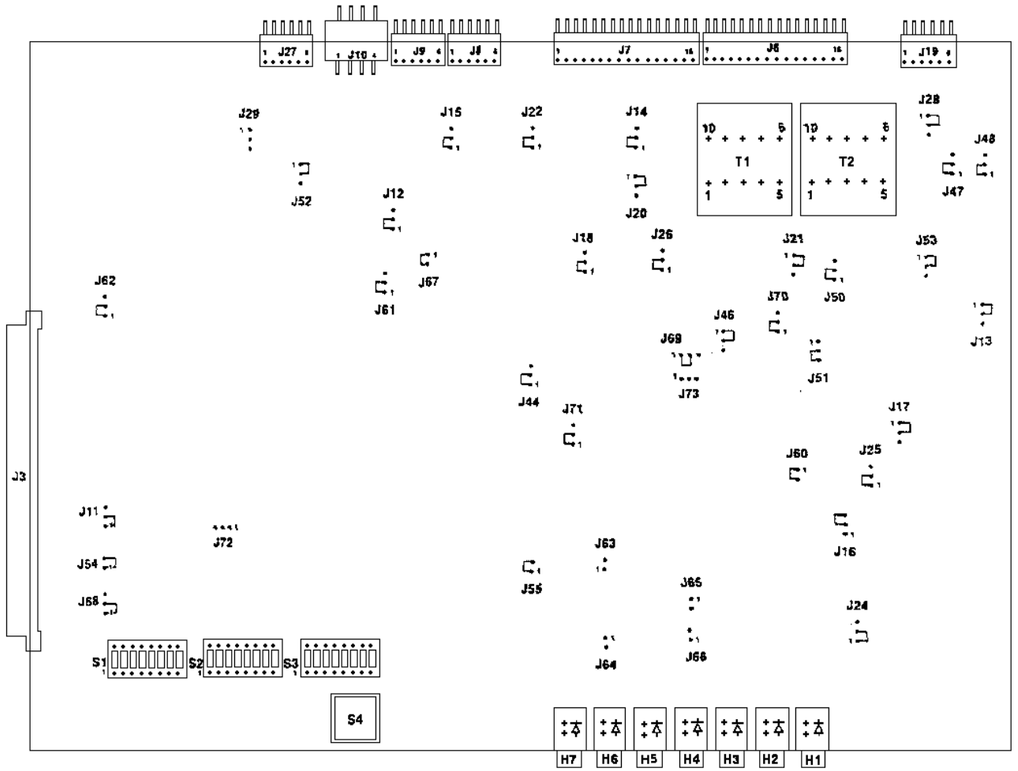
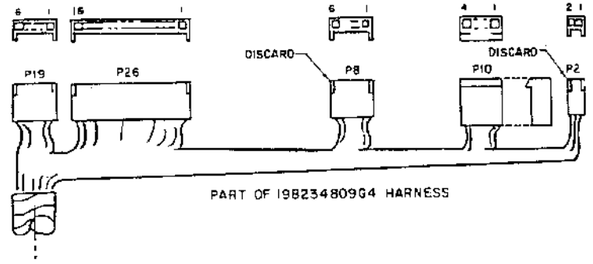
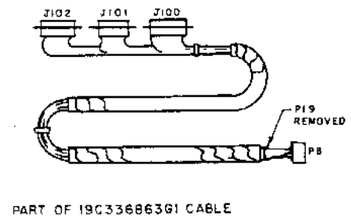


Figure 4 - Jumper Locations For 19D902104, Rev. D

MODIFICATION INSTRUCTIONS





MODIFICATION OF

19B234809G4 AND 19C336863G1 HARNESSES FOR USE IN A TSIN GETC.

I MOD OF 19B234809G4

1. MOVE R WIRE FROM P26-4 TO P26-11.
2. MOVE WO WIRE FROM P8-5 TO P26-12.
3. MOVE WR WIRE FROM P8-6 TO P26-15.
4. MOVE WOR WIRE FROM P2-1 TO P26-16. DISCARD P2.
5. CLIP OFF BK WIRE NEAR P8-3 AND DISCARD P8.
6. SWAP G &WBL WIRES AT P26-6 & 8. PUT G WIRE IN P26-8 AND BL WIRE IN P26-6.
7. SWAP WG & BL WIRES AT P26-7 & 9. PUT WG WIRE IN P26-9 AND WBL WIRE IN P26-7.

II MOD OF 19C336863G1

CUT OFF WIRES TO P19 AT EXIT OF SPIRAL WRAP AND DISCARD.

(19B801661, Sh. 1, Rev. 1)

TSIN GETC HARNESS

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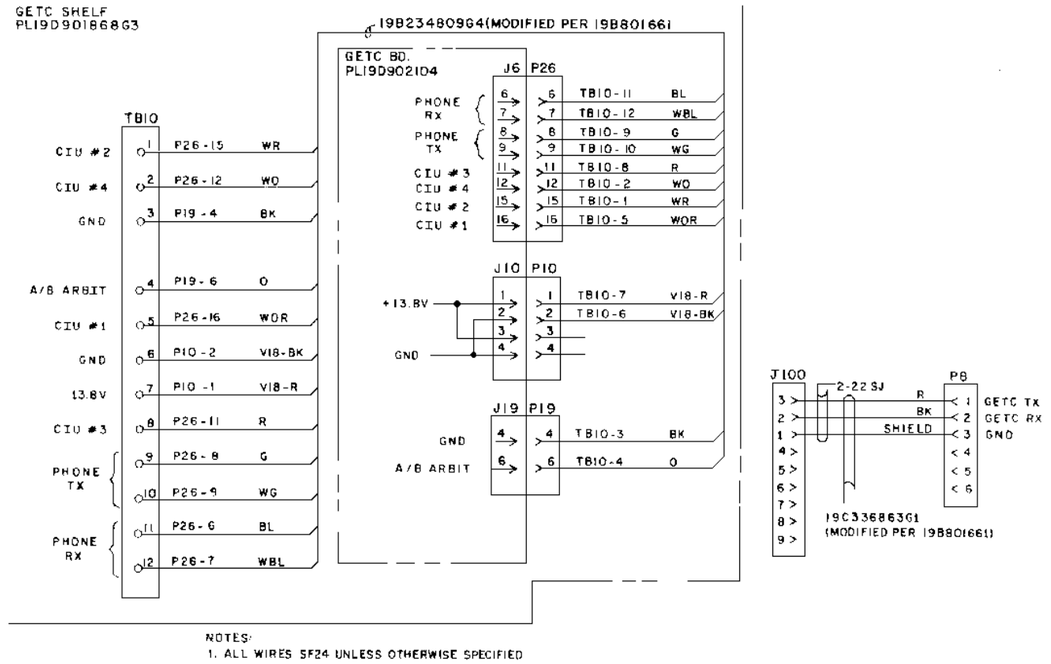
INTERCONNECTION DIAGRAM



(19B801660, Sh. 1, Rev. 1)

TSIN GETC HARNESS