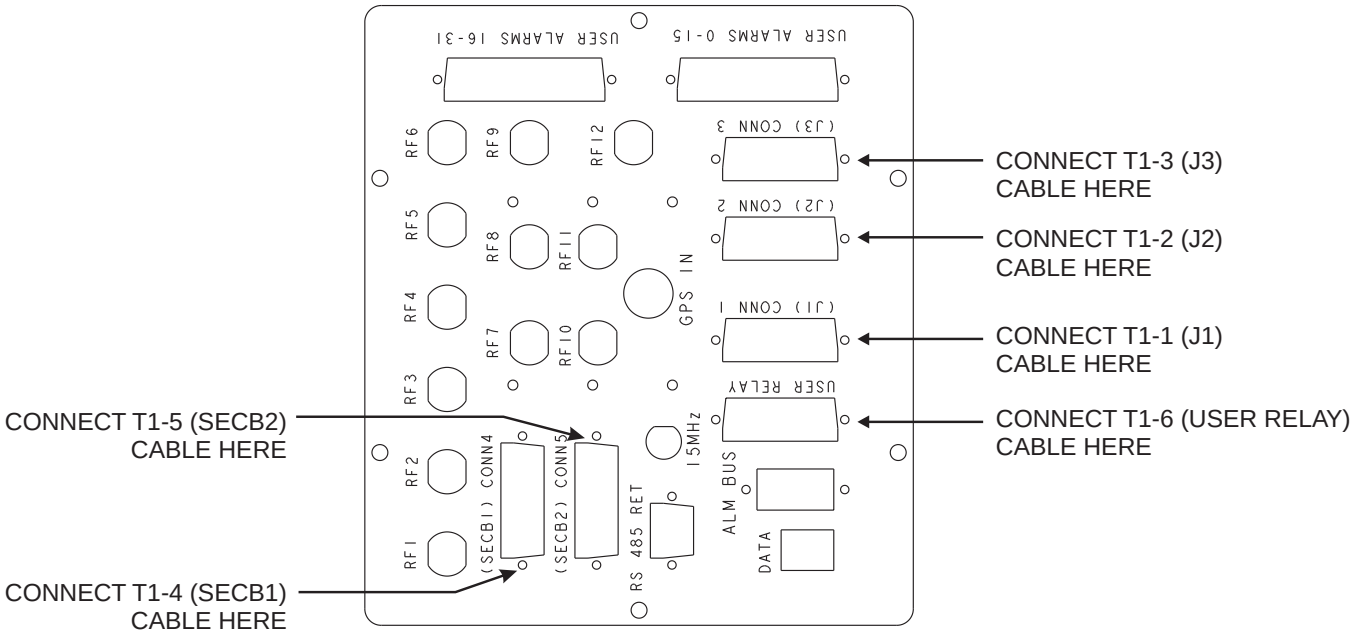
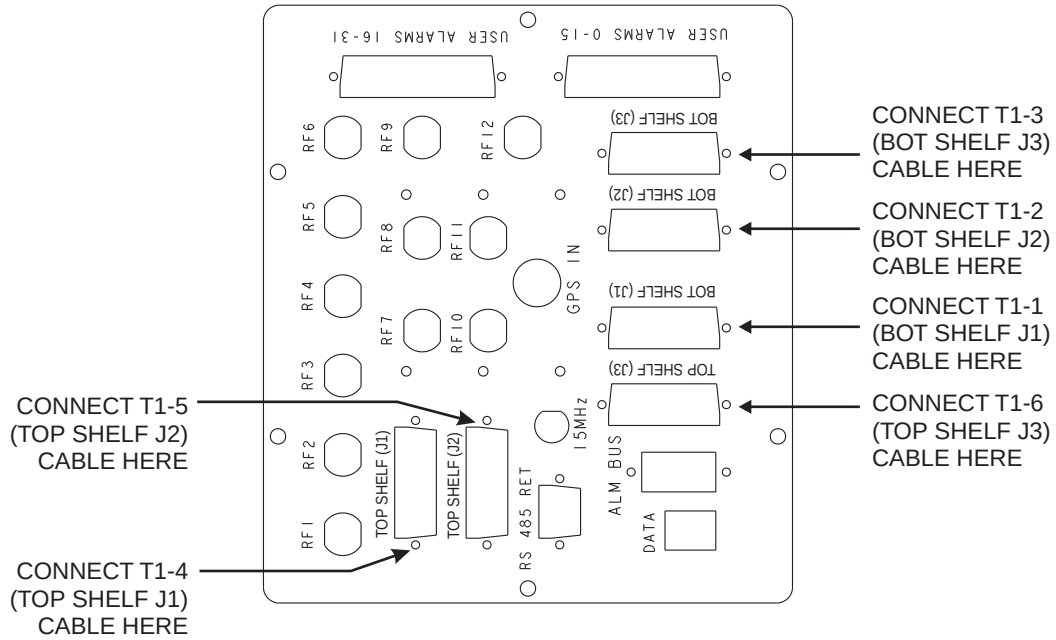


FRONT

The figure below shows the hatchplate with new labels (if available) on the BTS 8420Digital Only version with two Digital Shelves.

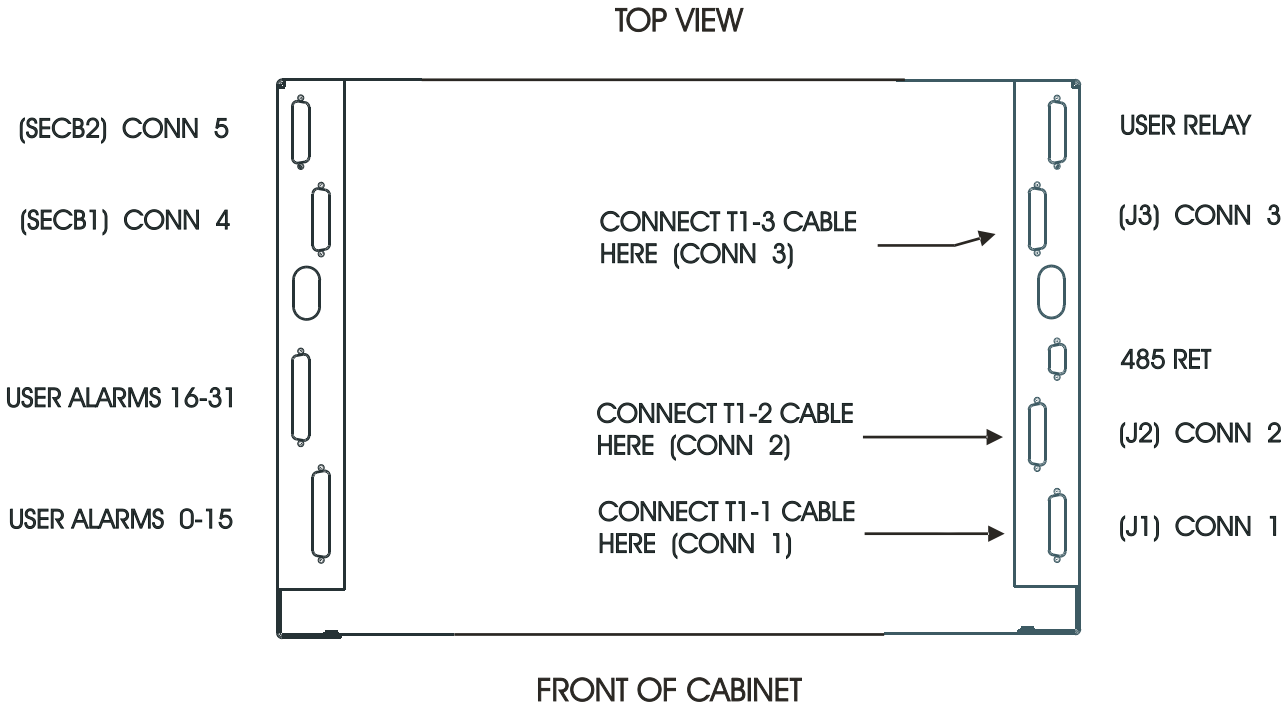


FRONT

Important! Skip step 2 if the BTS 8420 radio cabinet does not have integrated power and go to Step 3.

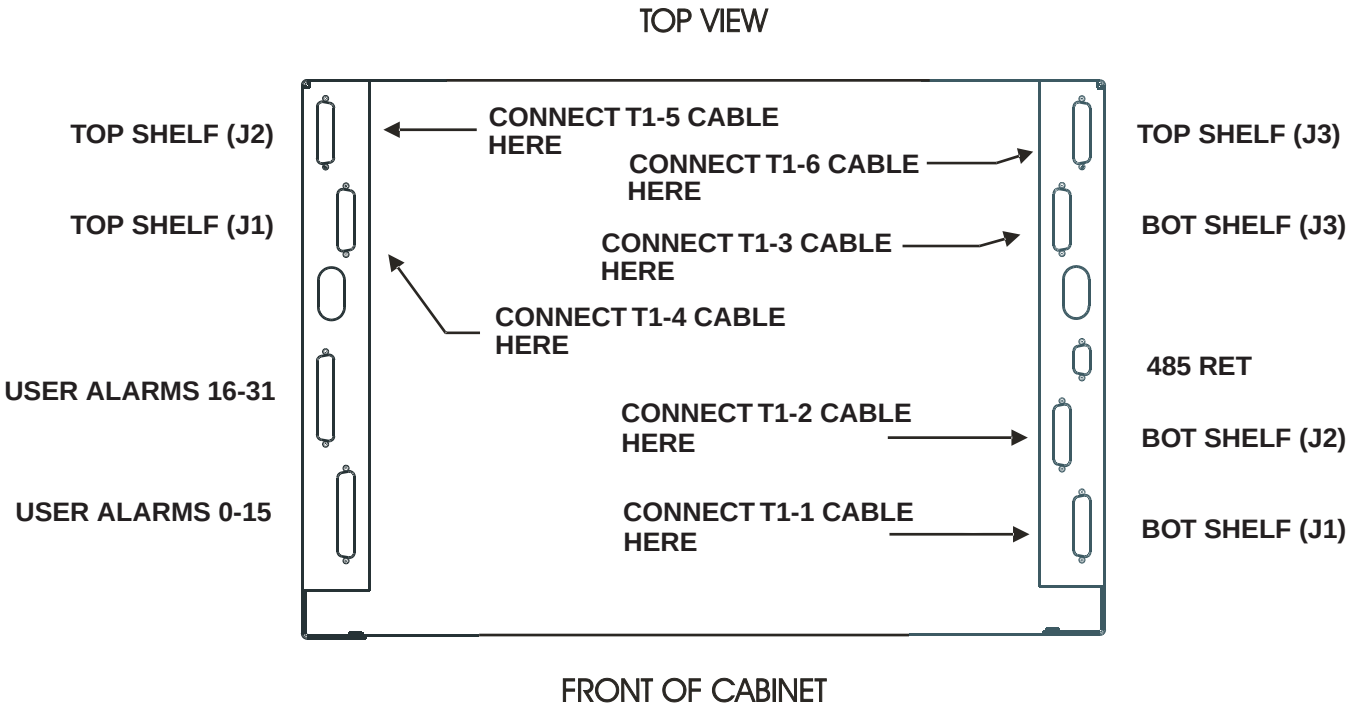
2 For BTS 8420 radio cabinets with integrated power, locate the T1/E1 cables shipped with the cabinet.

For the AWS 8420 and all versions of the BTS 8420 radio cabinet except the Digital Only version with two Digital Shelves, ensure both ends of the T1 cables are labeled "T1-1," "T1-2,"and "T1-3" (as applicable) and connect them to the Integrated Power Module on top of the BTS 8420/AWS 8420 radio cabinet.

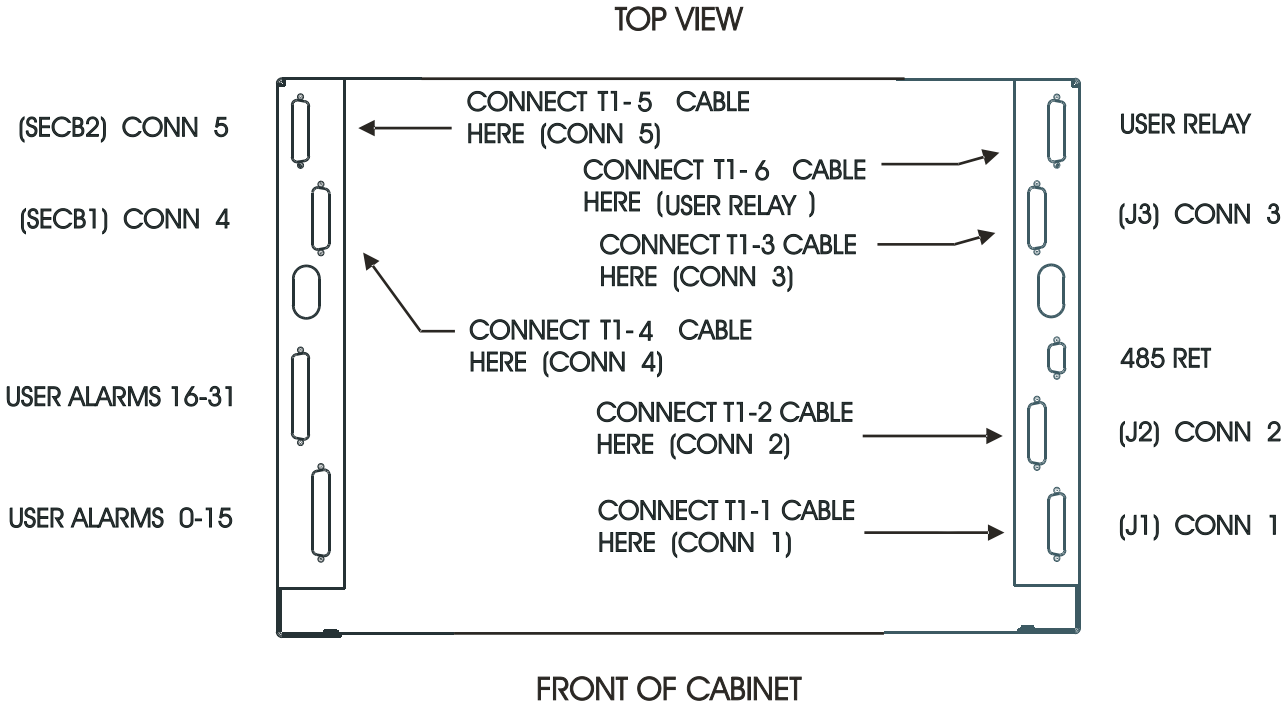


For the BTS 8420 Digital Only version with two Digital Shelves, ensure that the T1 cables are labeled as follows: "T1-1 for Digital Shelf 1," "T1-2 for Digital Shelf 1," "T1-3 for Digital Shelf 1," "T1-4 for Digital Shelf 2," "T1-5 for Digital Shelf 2," and "T1-6 for Digital Shelf 2," as applicable. Connect the T1 cables to the Universal Hatchplate on the BTS 8420 radio cabinet according to one of the figures below.

Refer to the figure immediately below if the Integrated Power Module bracket has labels specifically designed for BTS 8420 Digital Only version with two Digital Shelves.



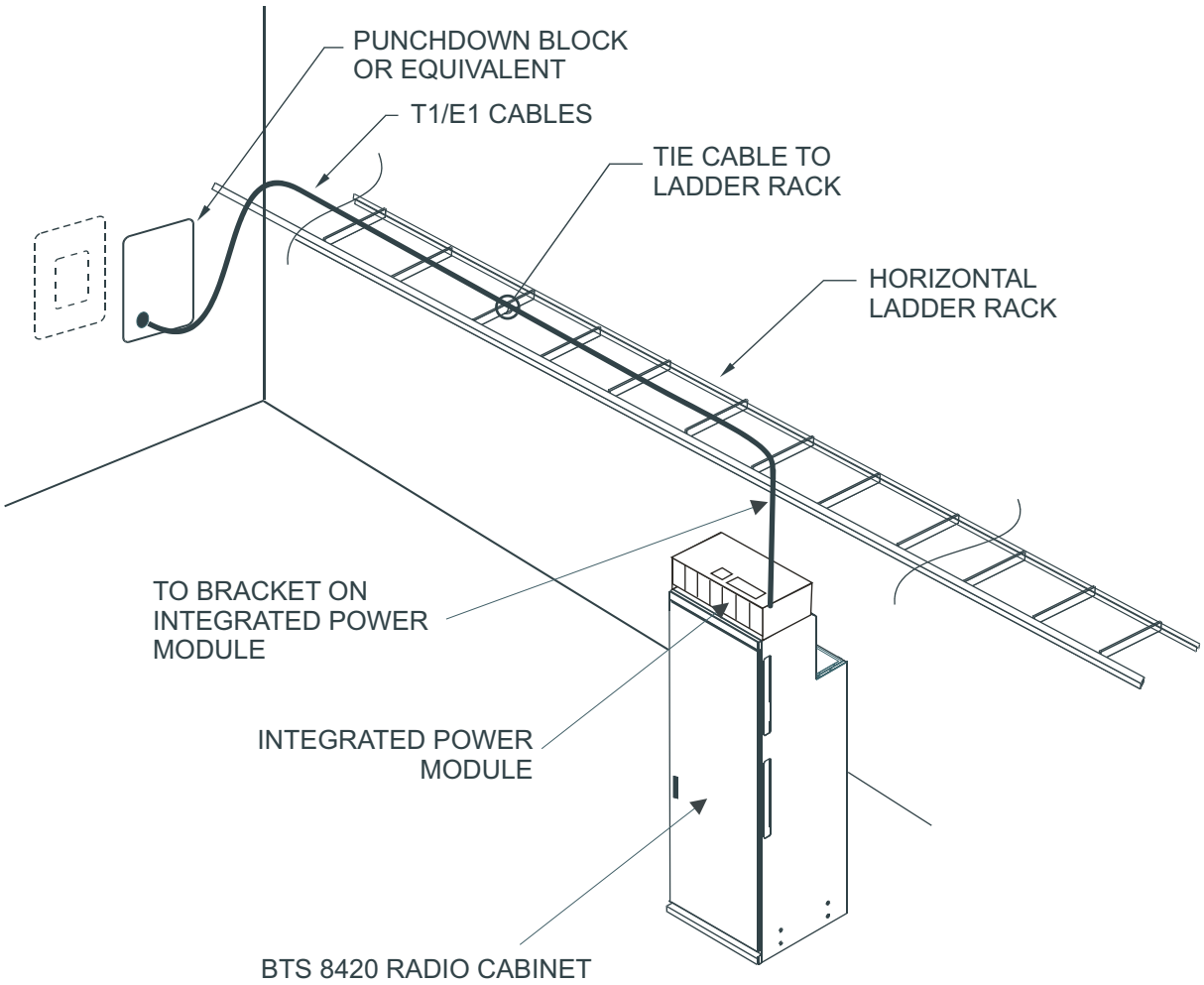
Refer to the figure below if Integrated Power Module bracket has the original labels.



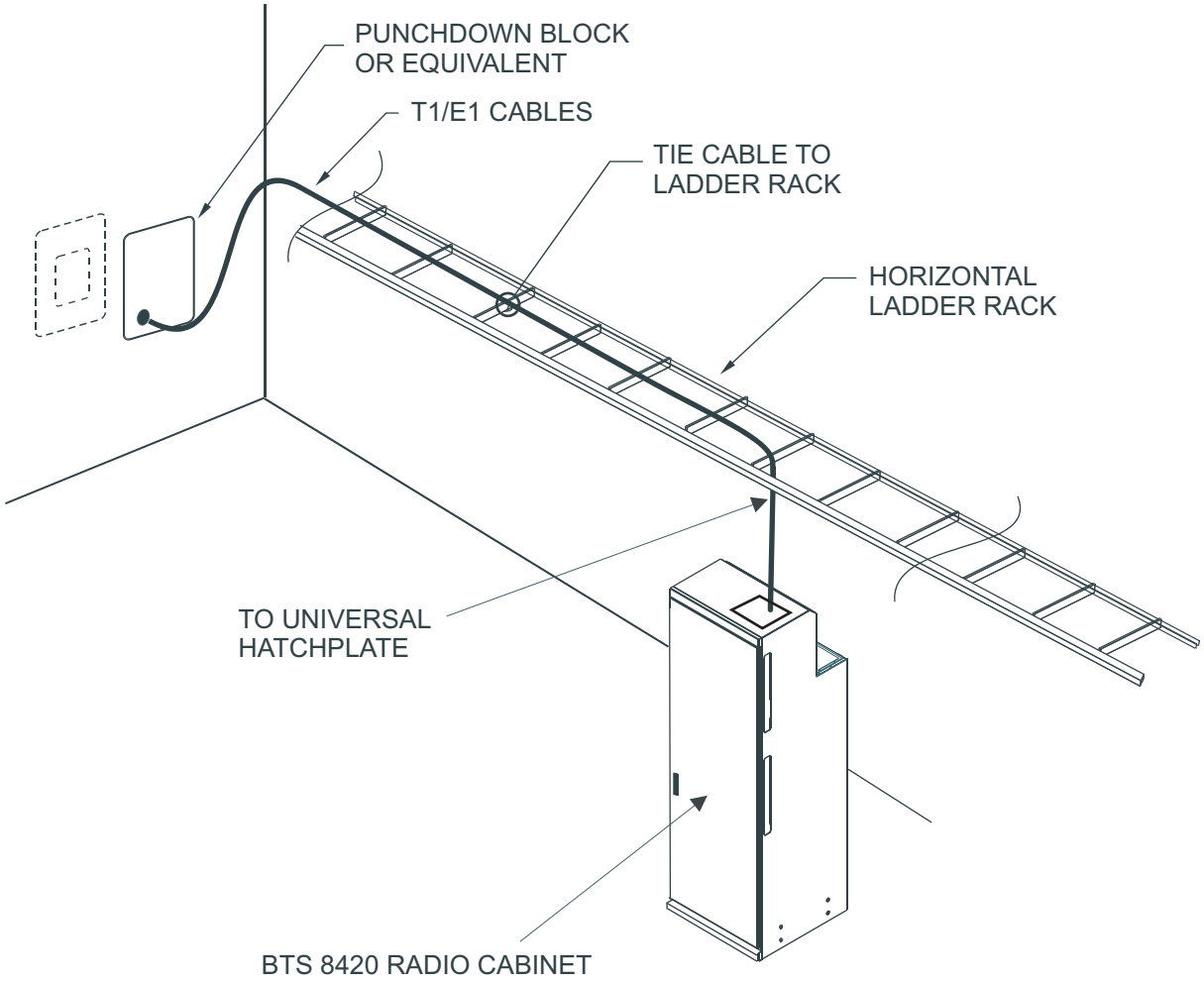
3 Route the T1/E1 cable(s) to the location of the Z-IDC punchdown block (or equivalent), if the NIU is located more than the 10 meter (33 foot) cable length from the BTS 8420/AWS 8420 radio cabinet. Otherwise, route the T1/E1 cable(s) directly to the NIU. Refer to the appropriate figure below.

Important! When performing the next step, secure the cable to the ladder rack using standard procedures, including the use of cable ties.

4 Tie the T1/E1 cable(s) to the ladder rack. Refer to the appropriate figure below. The following figure applies to both BTS 8420 and AWS 8420 radio cabinets with integrated power.



The following figure applies to both BTS 8420 and AWS 8420 radio cabinets without integrated power.


PUNCHDOWN BLOCK
OR EQUIVALENT
T1/E1 CABLES
TIE CABLE TO
LADDER RACK
HORIZONTAL
LADDER RACK
TO UNIVERSAL
HATCHPLATE
BTS 8420 RADIO CABINET

END OF STEPS

Connect twisted-wire pairs in T1/E1 cables to appropriate Z-IDC punchdown blocks (or equivalent) -- for AWS 8420 and all versions of BTS 8420 except Digital Only version with two Digital Shelves.

Important! *Z-IDC punchdown blocks are used only if the distance from the NIU to the BTS 8420/AWS 8420 is greater than the 10 meter (33 foot) cable length. Otherwise, T1/E1 connections are made directly to the NIU.*

Each T1/E1 cable contains eight twisted-wire pairs. One end is terminated with a 25-pin, D-sub connector. The 25-pin, D-sub connector is connected to the BTS 8420/AWS 8420 radio cabinet. The end with loose wires is punched down at the Z-IDC punchdown blocks (i.e., punchdown block 1-5 on the NIU) or equivalent.

When URCs are used in the Digital Shelf: T1-1 is connected to punchdown block 1 on the NIU, T1-2 is connected to punchdown block 2 on the NIU, and T1-3 is connected to punchdown block 3 on the NIU.

Each T1/E1 cable supports up to four T1/E1 Voice lines or one Data line, as follows:

- *First cable (T1-1)*: One to four T1/E1 lines (one Data line *or* one to four Voice lines, mutually exclusive) to punchdown block 1 on the NIU -- applies to URCs or URC-IIs
- *Second cable (T1-2)*: One to four T1/E1 lines (Voice only) to punchdown block 2 on the NIU -- applies to URCs or URC-IIs
- *Third cable (T1-3)*: One to four T1/E1 lines (Voice only) to punchdown block 3 on the NIU -- applies to URCs or URC-IIs

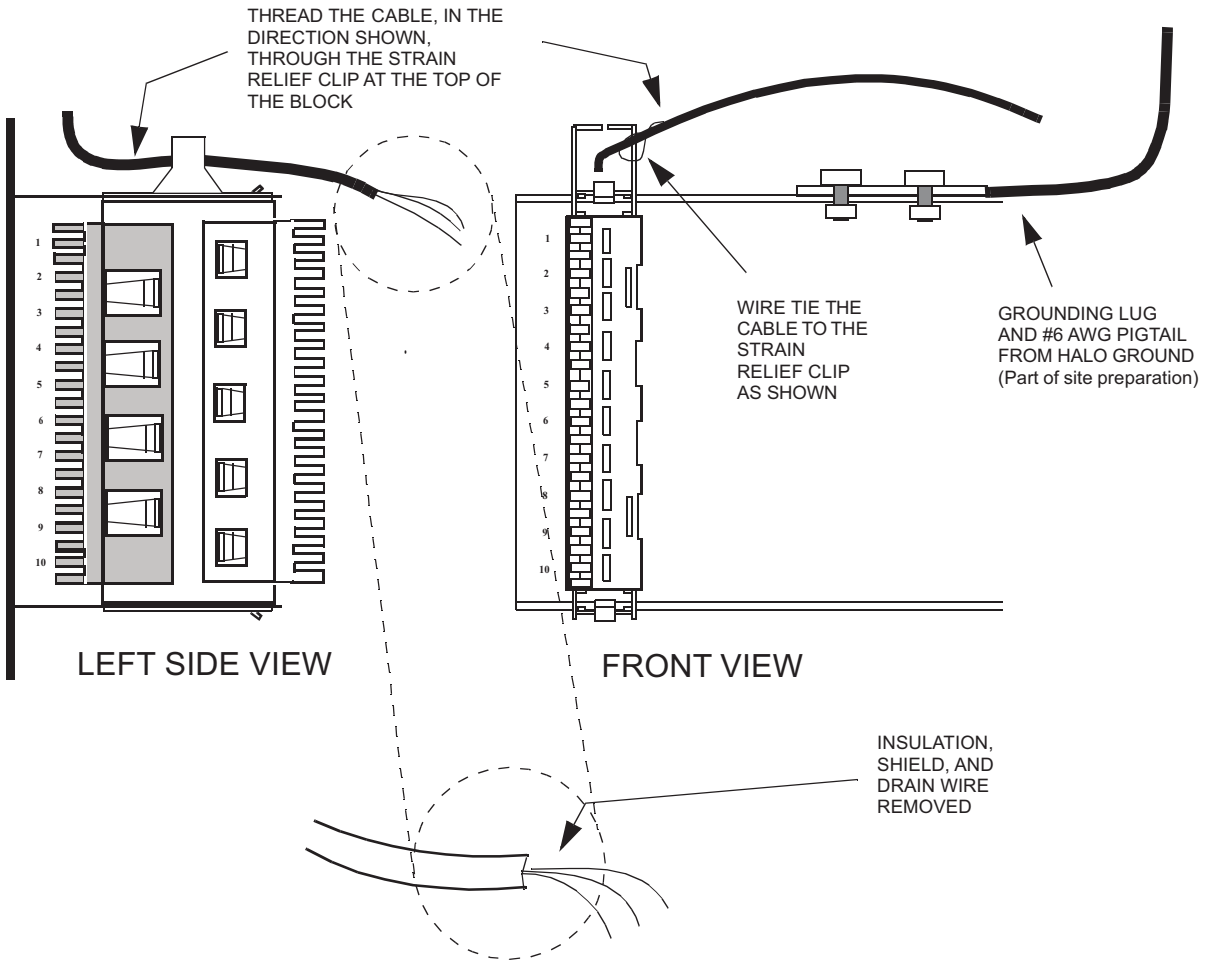
Connect the T1/E1 twisted-wire pairs to the punchdown terminals on the EQUIPMENT SIDE of the appropriate Z-IDC punchdown block (or equivalent) according to the following procedure. See Step 10 for the Z-IDC punchdown block wiring tables.

1 **Important!** When performing the following procedure, note that line numbers have already been assigned to signal pairs by the customer during site preparation (i.e., when the lines were punched down at the *NETWORK* SIDE of each Z-IDC punchdown block).

Locate the cable marked T1-1 and Z-IDC punchdown block 1. For the location of the punchdown blocks on the NIU, for all versions of the BTS 8420 radio cabinet except the Digital Only version with two Digital Shelves, refer to“Layout of Z-IDC punchdown blocks” (p. 5-13)

2 Route the cable through the cable strain relief clip at the top of the Z-IDC punchdown block. Refer to the figure below.

3 Remove sufficient cable insulation and drain shield to expose enough wire to reach the punchdown connections on the punchdown block. Refer to the figure below.



The connectorized end of Indoor T1/E1 and user alarm cable shields are bonded to the radio cabinet hatch plate via the D-sub connector.

4 Route the cable wires down the side of the punchdown block closest to the side to where the punchdown connections will be made. See the figure below.

5 Fan out the wires to the punchdown connections. (Be sure to leave plenty of slack.)

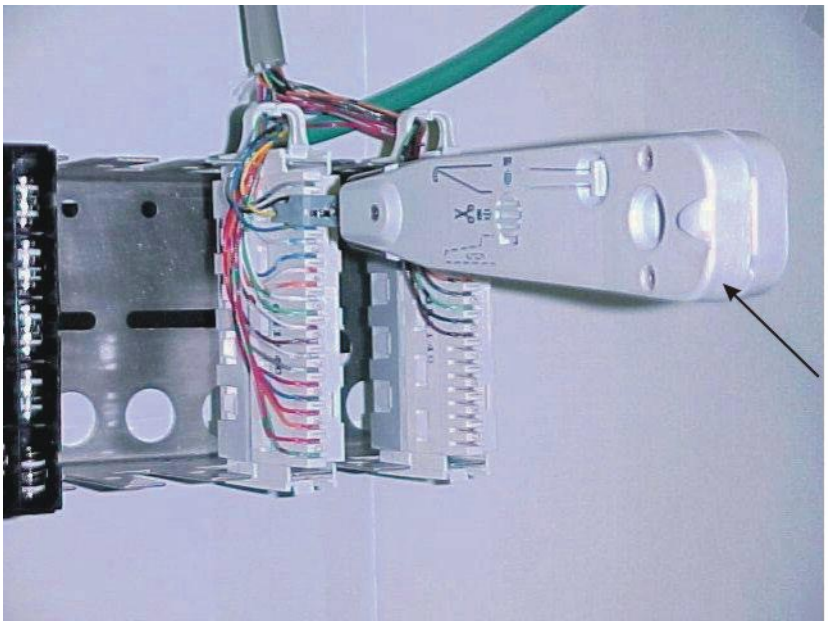
6

WARNING

Equipment Damage

Z-IDC punchdown tool (ITE No. R-6097) must be used when performing this step. Any other tool will damage the Z-IDC punchdown block.

Orient the Z-IDC punchdown tool (ITE No. R-6097) so the cutter faces the middle of the Z-IDC punchdown block. Refer to the following figure.



7 Punch down twisted-wire pairs 1-8 at punchdown block 1, according to the appropriate table below. Cut off any excess wire.

8 Locate the cable labeled T1-2 (if applicable) and punchdown block 2. Repeat Steps 2 through 6. Punch down twisted-wire pairs 1-8 at punchdown block 2, according to the appropriate table below. Cut off any excess wire.

9 Locate the cable marked T1-3 (if applicable) and punchdown block 3. Repeat Steps 2 through 6. Punch down twisted-wire pairs 1-8 at punchdown block 3, according to the appropriate table below. Cut off any excess wire.

10 Connect the T1/E1 cables according to the following table.

The following tables provide the T1/E1 cable, twisted-wire pair connections for cables T1-1, T1-2, and T1-3. These cables go to the EQUIPMENT SIDE of the Z-IDC punchdown blocks.

URC or URC-II, Position 1, Data or Voice, mutually exclusive					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block, if applicable. (See Note 1)	**T1-1 cable wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4)**	**Pair #**	**Function Tx/Rx, Tip/Ring**	**Equipment side of Z-IDC punchdown block 1, if applicable. (See Note 2) URC or URC-II, Position 1.**	**25 pin, D-sub pin #**
LINE _____	White-Blue	1	Tx T	1-1 Upper	2
	Blue-White		Tx R	1-1 Lower	1
	White-Orange	2	Rx T	1-2 Upper	16
	Orange-White		Rx R	1-2 Lower	15
LINE _____	White-Green	3	Tx T	1-3 Upper	5
	Green-White		Tx R	1-3 Lower	4
	White-Brown	4	Rx T	1-4 Upper	19
	Brown-White		Rx R	1-4 Lower	18
LINE _____	White-Slate	5	Tx T	1-5 Upper	8
	Slate-White		Tx R	1-5 Lower	7
	Red-Blue	6	Rx T	1-6 Upper	22
	Blue-Red		Rx R	1-6 Lower	21
LINE _____	Red-Orange	7	Tx T	1-7 Upper	11
	Orange-Red		Tx R	1-7 Lower	10
	Red-Green	8	Rx T	1-8 Upper	25
	Green-Red		Rx R	1-8 Lower	24

Notes:

1. *Data or Voice T1/E1 lines must be assigned to Z-IDC Punchdown Block 1 (URC or URC-II). Data and Voice are mutually exclusive.*
2. *EXAMPLE 1-3 Lower = Block Number 1, Position 3, Lower*
3. *The Z-IDC positions 9 and 10 are not used. Unused T1/E1 cables at the customer's NIU must not be looped back towards the BTS 8420/AWS 8420 while the radio is in operation.*
4. *Use the T1-1 cable wire color code accordingly to punch down T1 cable (depends upon number of T1s available) at customer provided punchdown block on NIU.*

URC or URC-II, Position 2, Voice only					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block, if applicable. (See Note 1.)	**T1-2 cable wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx Tip/Ring**	**Equipment side of Z-IDC punchdown block 2, if applicable.(See Note 2.) URC or URC-II, Position 2.**	**25 pin, D-sub pin #**
LINE _____	White-Blue	1	Tx T	2-1 Upper	2
	Blue-White		Tx R	2-1 Lower	1
	White-Orange	2	Rx T	2-2 Upper	16
	Orange-White		Rx R	2-2 Lower	15
LINE _____	White-Green	3	Tx T	2-3 Upper	5
	Green-White		Tx R	2-3 Lower	4
	White-Brown	4	Rx T	2-4 Upper	19
	Brown-White		Rx R	2-4 Lower	18
LINE _____	White-Slate	5	Tx T	2-5 Upper	8
	Slate-White		Tx R	2-5 Lower	7
	Red-Blue	6	Rx T	2-6 Upper	22
	Blue-Red		Rx R	2-6 Lower	21
LINE _____	Red-Orange	7	Tx T	2-7 Upper	11
	Orange-Red		Tx R	2-7 Lower	10
	Red-Green	8	Rx T	2-8 Upper	25
	Green-Red		Rx R	2-8 Lower	24

Notes:

1. *Only Voice T1/E1 lines may be assigned to Z-IDC Punchdown Block #2 (URC or URC-II, Position 2).*
2. *EXAMPLE 2-3 Lower = Punchdown Block #2, Position 3, Lower*
3. *Z-IDC positions 9 and 10 are not used. Unused T1/E1 cables, at the customer's NIU, must not be looped back towards the BTS 8420/AWS 8420 while the radio is in operation.*
4. *Use the T1-2 cable wire color code accordingly to punch down T1 cable (depends upon number of T1s available) at customer provided punchdown block on NIU.*

URC or URC-II, Position 3, Voice only					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block, if applicable. (See Note 1.)	**T1-3 cable wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx Tip/Ring**	**Equipment side of Z-IDC punchdown block 3, if applicable. (See Note 2.) URC or URC-II, Position 3.**	**25 pin, D-sub pin #**
LINE _____	White-Blue	1	Tx T	3-1 Upper	2
	Blue-White		Tx R	3-1 Lower	1
	White-Orange	2	Rx T	3-2 Upper	16
	Orange-White		Rx R	3-2 Lower	15
LINE _____	White-Green	3	Tx T	3-3 Upper	5
	Green-White		Tx R	3-3 Lower	4
	White-Brown	4	Rx T	3-4 Upper	19
	Brown-White		Rx R	3-4 Lower	18
LINE _____	White-Slate	5	Tx T	3-5 Upper	8
	Slate-White		Tx R	3-5 Lower	7
	Red-Blue	6	Rx T	3-6 Upper	22
	Blue-Red		Rx R	3-6 Lower	21
LINE _____	Red-Orange	7	Tx T	3-7 Upper	11
	Orange-Red		Tx R	3-7 Lower	10
	Red-Green	8	Rx T	3-8 Upper	25
	Green-Red		Rx R	3-8 Lower	24

Notes:

1. *Only Voice T1/E1 lines may be assigned to Punchdown Block 3 (URC or URC-II, Position 3).*
2. *EXAMPLE 3-3 Lower = Block Number 3, Position 3, Lower*
3. *Z-IDC positions 9 and 10 are not used. Unused T1/E1 cables, at the customer's NIU, must not be looped back towards the BTS 8420/AWS 8420 while the radio is in operation.*
4. *Use the T1-3 cable wire color code accordingly to punch down T1 cable (depends upon number of T1s available) at customer provided punchdown block on NIU.*

END OF STEPS

Connect twisted-wire pairs in T1/E1 cables to appropriate Z-IDC punchdown blocks (or equivalent) -- for BTS 8420 Digital Only version with two Digital Shelves.

Important! Each T1/E1 cable contains eight twisted-wire pairs. One end is terminated with a 25-pin D-sub connector. The 25-pin, D-sub connector is connected to the BTS 8420 radio cabinet. The end with loose wires is punched down at the appropriate Z-IDC punchdown block (if applicable) or the punchdown block provided by the customer at the NIU.

Z-IDC punchdown blocks are used only if the NIU is located more than the 10 meter (33 foot) cable length from the BTS 8420. Otherwise, T1/E1 connections are made directly to the NIU.

If Z-IDC punchdown blocks are to be used, proceed with the steps which follow.

When URCs or URC-IIs are used in the first Digital Shelf: T1-1 is connected to punchdown block 1 on the NIU, T1-2 is connected to punchdown block 2 on the NIU, and T1-3 is connected to punchdown block 3 on the NIU.

When URCs or URC-IIs are used in the second Digital Shelf: T1-4 is connected to punchdown block 4 on the NIU, T1-5 is connected to punchdown block 5 on the NIU, and T1-6 is connected to punchdown block 6 on the NIU.

Each T1/E1 cable supports up to four T1/E1 Voice or Data lines, as follows:

- *First cable (T1-1)*: Data *or* Voice (one to four T1/E1 lines) (mutually exclusive) to punchdown block 1 on NIU -- applies to URCs or URC-IIs
- *Second cable (T1-2)*: One to four T1/E1 lines (Voice only) to punchdown block 2 on NIU-- applies to URCs or URC-IIs
- *Third cable (T1-3)*: One to four T1/E1 lines (Voice only) to punchdown block 3 on NIU -- applies to URCs or URC-IIs
- *Forth cable (T1-4)*: Data *or* Voice (one to four T1/E1 lines) (Mutually exclusive) to punchdown block 4 on NIU -- applies to URCs or URC-IIs
- *Fifth cable (T1-5)*: One to four T1/E1 lines (Voice only) to punchdown block 5 on NIU -- applies to URCs or URC-IIs
- *Sixth cable (T1-6)*: One to four T1/E1 lines (Voice only) to punchdown block 6 on NIU -- applies to URCs or URC-IIs

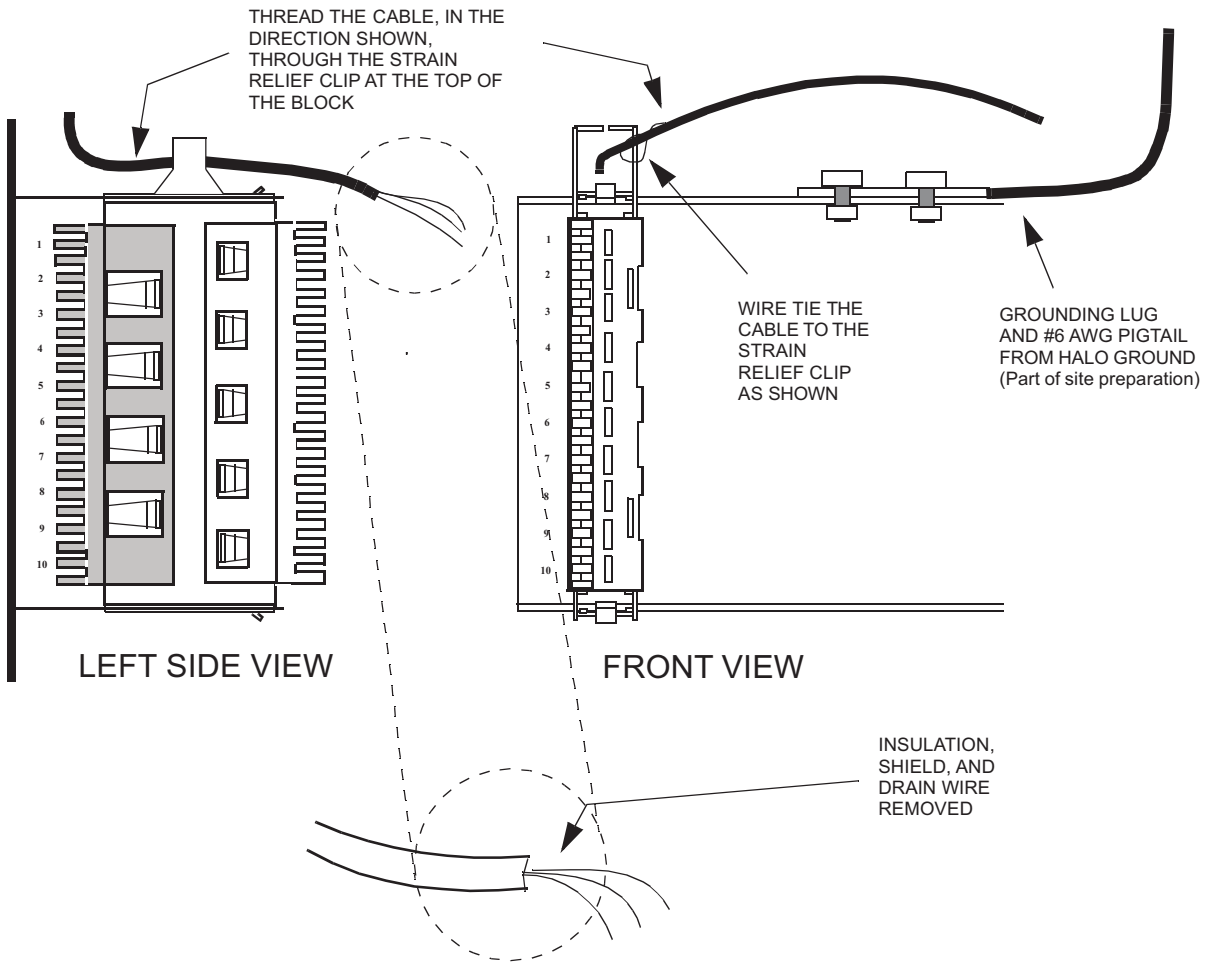
Connect the twisted-wire pairs in the T1/E1 cables to the punchdown terminals on the EQUIPMENT SIDE of the appropriate Z-IDC punchdown block (or equivalent) according to the following procedure.

1 **Important!** When performing the following procedure, note that line numbers have already been assigned to signal pairs by the customer during site preparation (i.e., when the lines were punched down at the *NETWORK* SIDE of the Z-IDC punchdown blocks).

Locate the cable labeled “T1-1 for Digital Shelf 1” (T1-1) and Z-IDC punchdown block 1. Refer to the figure on page 5-13 for the location of the punchdown blocks on the NIU, for the Digital Only version with two Digital Shelves.“Layout of Z-IDC punchdown blocks” (p. 5-14)

2 Route the cable through the cable strain relief clip at the top of the Z-IDC punchdown block. Refer to the figure in the next step.

3 Remove sufficient cable insulation and drain shield to expose enough wire to reach the punchdown connections on the punchdown block. Refer to the figure below.



The connectorized end of Indoor T1/E1 and user alarm cable shields are bonded to the radio cabinet hatch plate via the D-sub connector.

4 Route the cable wires down the side of the punchdown block, closest to the punchdown terminals, where the punchdown connections will be made. See the figure below.

5 Fan out the wires to the punchdown connections. (Be sure to provide plenty of slack.)

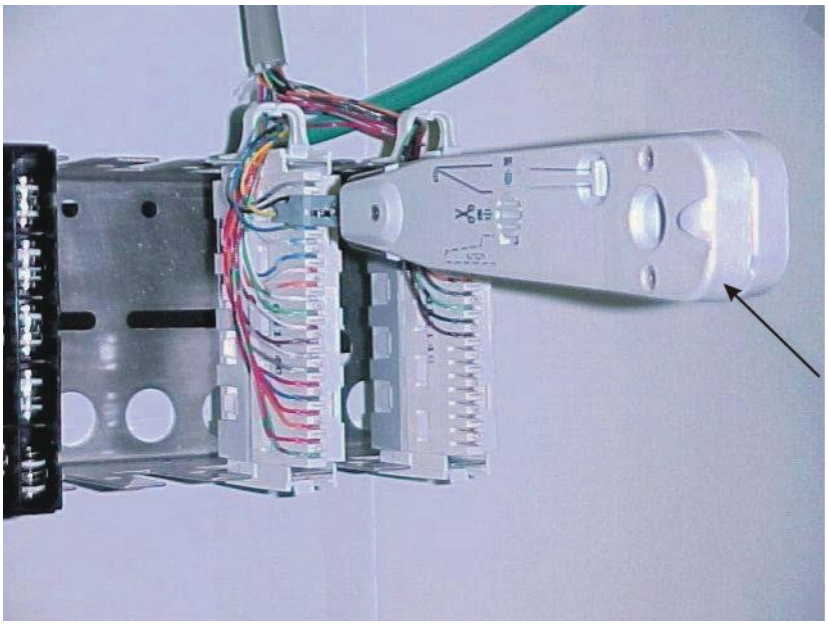
6

WARNING

Equipment Damage

Be sure to use Z-IDC punchdown tool (ITE No. R-6097) when performing this step. Any other tool will damage the Z-IDC punchdown block.

Position the Z-IDC punchdown tool (ITE No. R-6097) so that the cutter faces the middle of the Z-IDC punchdown block. Refer to the following figure.



7 Punch down twisted-wire pairs 1-8 at punchdown block 1, according to the appropriate table below. Cut off any excess wire.

8 Locate the cable labeled “T1-2 for Digital Shelf 1” (T1-2) and punchdown block 2. Repeat Steps 2-6. Punch down twisted-wire pairs 1-8 at punchdown block 2, according to the appropriate table below. Cut off any excess wire.

9 Locate the cable labeled “T1-3 for Digital Shelf 1” (T1-3) and punchdown block 3. Repeat Steps 2-6. Punch down twisted-wire pairs 1-8 at punchdown block 3, according to the appropriate table below. Cut off any excess wire.

10 Locate the cable labeled “T1-4 for Digital Shelf 2” (T1-4) and punchdown block 4. Repeat Steps 2-6. Punch down twisted-wire pairs 1-8 at punchdown block 4, according to the appropriate table below. Cut off any excess wire.

11 Locate the cable labeled “T1-5 for Digital Shelf 2” (T1-5) and punchdown block 5. Repeat Steps 2-6. Punch down twisted-wire pairs 1-8 at punchdown block 5, according to the appropriate table below. Cut off any excess wire.

12 Locate the cable labeled “T1-6 for Digital Shelf 2” (T1-6) and punchdown block 6. Repeat Steps 2-6. Punch down twisted-wire pairs 1-8 at punchdown block 6, according to the appropriate table below. Cut off any excess wire.

13 Connect the T1/E1 cables according to the following tables.

The following tables list the twisted-wire pair connections for cables “T1-1 for Digital Shelf 1,” “T1-2 for Digital Shelf 1,” “T1-3 for Digital Shelf 1,” “T1-1 for Digital Shelf 2,” “T1-2 for Digital Shelf 2,” and “T1-3 for Digital Shelf 2.” These cables (24 T1/E1 lines) are connected to the EQUIPMENT SIDE of each corresponding Z-IDC punchdown block. Tx/Rx signal twisted wire-pair connections are shown for Positions 1,2,3 on the first Digital Shelf and Positions 1,2,3 on the second Digital Shelf.

Data or Voice, mutually exclusive, Digital Shelf 1					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block by customer, if applicable. (See Note 1.)	**T1-1 cable wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx, Tip/Ring**	**Equipmnt side of Z-IDC punchdown block 1, if applicable. (See Note 2.) URC or URC-II, Position 1.**	**25 pin, D-sub pin #**
LINE _____	White-Blue	1	Tx T	1-1 Upper	2
	Blue-White		Tx R	1-1 Lower	1
	White-Orange	2	Rx T	1-2 Upper	16
	Orange-White		Rx R	1-2 Lower	15
LINE _____	White-Green	3	Tx T	1-3 Upper	5
	Green-White		Tx R	1-3 Lower	4
	White-Brown	4	Rx T	1-4 Upper	19
	Brown-White		Rx R	1-4 Lower	18

Data or Voice, mutually exclusive, Digital Shelf 1					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block by customer, if applicable. (See Note 1.)	**T1-1 cable wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx, Tip/Ring**	**Equipmnt side of Z-IDC punchdown block 1, if applicable. (See Note 2.) URC or URC-II, Position 1.**	**25 pin, D-sub pin #**
LINE _____	White-Slate	5	Tx T	1-5 Upper	8
	Slate-White		Tx R	1-5 Lower	7
	Red-Blue	6	Rx T	1-6 Upper	22
	Blue-Red		Rx R	1-6 Lower	21
LINE _____	Red-Orange	7	Tx T	1-7 Upper	11
	Orange-Red		Tx R	1-7 Lower	10
	Red-Green	8	Rx T	1-8 Upper	25
	Green-Red		Rx R	1-8 Lower	24

Notes:

1. *Data or Voice T1/E1 lines must be assigned to Z-IDC Punchdown Block 1 (URC or URC-II). Data and Voice are mutually exclusive.*
2. *EXAMPLE 1-3 Lower = Block Number 1, Position 3, Lower*
3. *The Z-IDC positions 9 and 10 are not used. Unused T1/E1 cables at the customer's NIU must not be looped back towards the BTS 8420 while the radio is in operation.*
4. *Use the T1-1 cable wire color code accordingly to punch down T1 cable (depends upon number of T1s available) at customer provided punchdown block on NIU.*

Voice only, Digital Shelf 1					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block by customer, if applicable. (See Note 1.)	**T1-2 cable wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx Tip/Ring**	**Equipment side of Z-IDC punchdown block 2, if applicable. (See Note 2.) URC or URC-II, Position 2.**	**25 pin, D-sub pin #**
LINE _____	White-Blue	1	Tx T	2-1 Upper	2
	Blue-White		Tx R	2-1 Lower	1
	White-Orange	2	Rx T	2-2 Upper	16
	Orange-White		Rx R	2-2 Lower	15
LINE _____	White-Green	3	Tx T	2-3 Upper	5
	Green-White		Tx R	2-3 Lower	4
	White-Brown	4	Rx T	2-4 Upper	19
	Brown-White		Rx R	2-4 Lower	18

Voice only, Digital Shelf 1					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block by customer, if applicable. (See Note 1.)	**T1-2 cable wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx Tip/Ring**	**Equipment side of Z-IDC punchdown block 2, if applicable. (See Note 2.) URC or URC-II, Position 2.**	**25 pin, D-sub pin #**
LINE _____	White-Slate	5	Tx T	2-5 Upper	8
	Slate-White		Tx R	2-5 Lower	7
	Red-Blue	6	Rx T	2-6 Upper	22
	Blue-Red		Rx R	2-6 Lower	21
LINE _____	Red-Orange	7	Tx T	2-7 Upper	11
	Orange-Red		Tx R	2-7 Lower	10
	Red-Green	8	Rx T	2-8 Upper	25
	Green-Red		Rx R	2-8 Lower	24

Notes:

1. *Only Voice T1/E1 lines may be assigned to Z-IDC Punchdown Block #2 (URC or URC-II, Position 2).*
2. *EXAMPLE 2-3 Lower = Punchdown Block #2, Position 3, Lower*
3. *Z-IDC positions 9 and 10 are not used. Unused T1/E1 cables, at the customer's NIU, must not be looped back towards the BTS 8420 while the radio is in operation.*
4. *Use the T1-1 cable wire color code accordingly to punch down T1 cable (depends upon number of T1s available) at customer provided punchdown block on NIU.*

Voice only, Digital Shelf 1					
Customer assigned T1/E1 Line Number. (Cable to be punched down at Equipment side of Z-IDC block by customer.) See Note 1.	**T1-3 cable wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx Tip/Ring**	**Equipment side of Z-IDC punchdown block 3, if applicable. (See Note 2.) URC or URC-II, Position 3.**	**25 pin, D-sub pin #**
LINE _____	White-Blue	1	Tx T	3-1 Upper	2
	Blue-White		Tx R	3-1 Lower	1
	White-Orange	2	Rx T	3-2 Upper	16
	Orange-White		Rx R	3-2 Lower	15
LINE _____	White-Green	3	Tx T	3-3 Upper	5
	Green-White		Tx R	3-3 Lower	4
	White-Brown	4	Rx T	3-4 Upper	19
	Brown-White		Rx R	3-4 Lower	18

Voice only, Digital Shelf 1					
Customer assigned T1/E1 Line Number. (Cable to be punched down at Equipment side of Z-IDC block by customer.) See Note 1.	**T1-3 cable wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx Tip/Ring**	**Equipment side of Z-IDC punchdown block 3, if applicable. (See Note 2.) URC or URC-II, Position 3.**	**25 pin, D-sub pin #**
LINE _____	White-Slate	5	Tx T	3-5 Upper	8
	Slate-White		Tx R	3-5 Lower	7
	Red-Blue	6	Rx T	3-6 Upper	22
	Blue-Red		Rx R	3-6 Lower	21
LINE _____	Red-Orange	7	Tx T	3-7 Upper	11
	Orange-Red		Tx R	3-7 Lower	10
	Red-Green	8	Rx T	3-8 Upper	25
	Green-Red		Rx R	3-8 Lower	24

Notes:

1. *Only Voice T1/E1 lines may be assigned to Punchdown Block 3 (URC or URC-II, Position 3).*
2. *EXAMPLE 3-3 Lower = Block Number 3, Position 3, Lower*
3. *Z-IDC positions 9 and 10 are not used. Unused T1/E1 cables, at the customer's NIU, must not be looped back towards the BTS 8420 while the radio is in operation.*
4. *Use the T1-3 cable wire color code accordingly to punch down T1 cable (depends upon number of T1s available) at customer provided punchdown block on NIU.*

Data or Voice, mutually exclusive, Digital Shelf 2					
Customer assigned T1/E1 Line Number. (Cable to be punched down at Equipment side of Z-IDC block by customer.) See Note 1.	**T1-4 (SECB-1) wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx, Tip/Ring**	**Equipment side of Z-IDC punchdown block 4, if applicable. (See Note 2.) URC or URC-II, Position 1.**	**25 pin, D-sub pin #**
LINE _____	White-Blue	1	Tx T	4-1 Upper	2
	Blue-White		Tx R	4-1 Lower	1
	White-Orange	2	Rx T	4-2 Upper	16
	Orange-White		Rx R	4-2 Lower	15
LINE _____	White-Green	3	Tx T	4-3 Upper	5
	Green-White		Tx R	4-3 Lower	4
	White-Brown	4	Rx T	4-4 Upper	19
	Brown-White		Rx R	4-4 Lower	18

Data or Voice, mutually exclusive, Digital Shelf 2					
Customer assigned T1/E1 Line Number. (Cable to be punched down at Equipment side of Z-IDC block by customer.) See Note 1.	**T1-4 (SECB-1) wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx, Tip/Ring**	**Equipment side of Z-IDC punchdown block 4, if applicable. (See Note 2.) URC or URC-II, Position 1.**	**25 pin, D-sub pin #**
LINE _____	White-Slate	5	Tx T	4-5 Upper	8
	Slate-White		Tx R	4-5 Lower	7
	Red-Blue	6	Rx T	4-6 Upper	22
	Blue-Red		Rx R	4-6 Lower	21
LINE _____	Red-Orange	7	Tx T	4-7 Upper	11
	Orange-Red		Tx R	4-7 Lower	10
	Red-Green	8	Rx T	4-8 Upper	25
	Green-Red		Rx R	4-8 Lower	24

Notes:

1. *Data or Voice T1/E1 lines must be assigned to Z-IDC Punchdown Block 4 (URC or URC-II). Data and Voice are mutually exclusive.*
2. *EXAMPLE 4-3 Lower = Block Number 1, Position 3, Lower*
3. *The Z-IDC positions 9 and 10 are not used. Unused T1/E1 cables at the customer's NIU must not be looped back towards the BTS 8420 while the radio is in operation.*
4. *Use the T1-4 cable wire color code accordingly to punch down T1 cable (depends upon number of T1s available) at customer provided punchdown block on NIU.*

Voice only, Digital Shelf 2					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block, if applicable. (See Note 1.)	**T1-5 (SECB-2) wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx Tip/Ring**	**Equipment side of Z-IDC punchdown block 5, if applicable. (See Note 2.) Goes to URC or URC-II, Position 2.**	**25 pin, D-sub pin #**
LINE _____	White-Blue	1	Tx T	5-1 Upper	2
	Blue-White		Tx R	5-1 Lower	1
	White-Orange	2	Rx T	5-2 Upper	16
	Orange-White		Rx R	5-2 Lower	15
LINE _____	White-Green	3	Tx T	5-3 Upper	5
	Green-White		Tx R	5-3 Lower	4
	White-Brown	4	Rx T	5-4 Upper	19
	Brown-White		Rx R	5-4 Lower	18

Voice only, Digital Shelf 2					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block, if applicable. (See Note 1.)	**T1-5 (SECB-2) wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx Tip/Ring**	**Equipment side of Z-IDC punchdown block 5, if applicable. (See Note 2.) Goes to URC or URC-II, Position 2.**	**25 pin, D-sub pin #**
LINE _____	White-Slate	5	Tx T	5-5 Upper	8
	Slate-White		Tx R	5-5 Lower	7
	Red-Blue	6	Rx T	5-6 Upper	22
	Blue-Red		Rx R	5-6 Lower	21
LINE _____	Red-Orange	7	Tx T	5-7 Upper	11
	Orange-Red		Tx R	5-7 Lower	10
	Red-Green	8	Rx T	5-8 Upper	25
	Green-Red		Rx R	5-8 Lower	24

Notes:

1. *Only Voice T1/E1 lines may be assigned to Z-IDC Punchdown Block 5 (URC or URC-II, Position 2).*
2. *EXAMPLE 5-3 Lower = Punchdown Block 5, Position 3, Lower*
3. *Z-IDC positions 9 and 10 are not used. Unused T1/E1 cables, at the customer's NIU, must not be looped back towards the BTS 8420 while the radio is in operation.*
4. *Use the T1-5 cable wire color code accordingly to punch down T1 cable (depends upon number of T1s available) at customer provided punchdown block on NIU.*

Voice only, Digital Shelf 2					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block by customer, if applicable. (See Note 1.)	**T1-6 (User Relay) wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx Tip/Ring**	**Equipment side of Z-IDC punchdown block 6, if applicable. (See Note 2.) URC or URC-II, Position 3.**	**25 pin, D-sub pin #**
LINE _____	White-Blue	1	Tx T	6-1 Upper	2
	Blue-White		Tx R	6-1 Lower	1
	White-Orange	2	Rx T	6-2 Upper	16
	Orange-White		Rx R	6-2 Lower	15
LINE _____	White-Green	3	Tx T	6-3 Upper	5
	Green-White		Tx R	6-3 Lower	4
	White-Brown	4	Rx T	6-4 Upper	19
	Brown-White		Rx R	6-4 Lower	18

Voice only, Digital Shelf 2					
Customer assigned T1/E1 Line Number. Cable to be punched down at Equipment side of Z-IDC block by customer, if applicable. (See Note 1.)	**T1-6 (User Relay) wire color code. To be punched down at customer provided punchdown block at NIU. (See Note 4.)**	**Pair #**	**Function Tx/Rx Tip/Ring**	**Equipment side of Z-IDC punchdown block 6, if applicable. (See Note 2.) URC or URC-II, Position 3.**	**25 pin, D-sub pin #**
LINE _____	White-Slate	5	Tx T	6-5 Upper	8
	Slate-White		Tx R	6-5 Lower	7
	Red-Blue	6	Rx T	6-6 Upper	22
	Blue-Red		Rx R	6-6 Lower	21
LINE _____	Red-Orange	7	Tx T	6-7 Upper	11
	Orange-Red		Tx R	6-7 Lower	10
	Red-Green	8	Rx T	6-8 Upper	25
	Green-Red		Rx R	6-8 Lower	24

Notes:

1. *Only Voice T1/E1 lines may be assigned to Punchdown Block 6 (URC or URC-II, Position 3).*
2. *EXAMPLE 6-3 Lower = Block Number 6, Position 3, Lower*
3. *Z-IDC positions 9 and 10 are not used. Unused T1/E1 cables, at the customer's NIU, must not be looped back towards the BTS 8420 while the radio is in operation.*
4. *Use the T1-6 cable wire color code accordingly to punch down T1 cable (depends upon number of T1s available) at customer provided punchdown block on NIU.*

END OF STEPS

□

How to route and connect User Alarm cable(s) to indoor BTS 8420/AWS 8420 radio cabinet

Overview

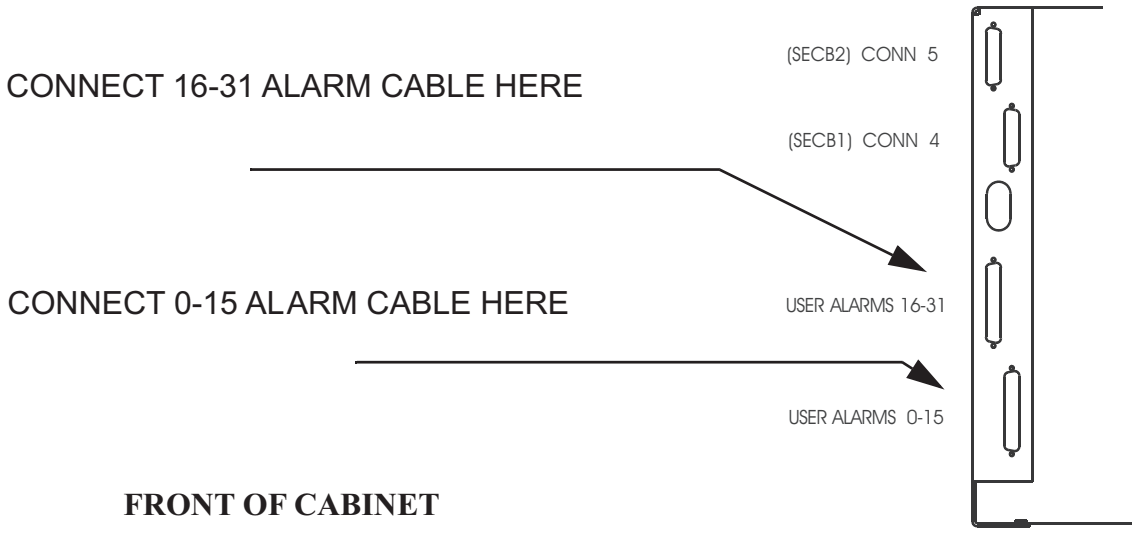
This topic provides instructions for routing and connecting the User Alarm cable (external and power, if applicable) to the BTS 8420/AWS 8420 radio cabinet. Each indoor User Alarm cable consists of 16 twisted-wire pairs. The end, which is terminated with a 37-pin D-sub, is connected to the BTS 8420/AWS 8420 radio cabinet. The loose (not terminated) end is punched down at the NIU.

Connect User Alarm cable(s) to BTS 8420/AWS 8420 radio cabinet with integrated power

Perform the following steps when connecting User Alarm cable(s) to the BTS 8420/AWS 8420 radio cabinet with integrated power.

1 For the AWS 8420 and all versions of the BTS 8420 radio cabinet with integrated power (except the BTS 8420 Digital Only version with two Digital Shelves), locate the two User Alarm cable(s) shipped with the cabinet. Mark the first cable “Alarms 0-15” at both ends. Mark the second cable (if there is one) with “Alarms 16-31“ at both ends. For configurations with non-Alcatel-Lucent power, connect the “Alarms 16-31” cable to the bracket on top of the Integrated Power Module. Refer to the figure below.

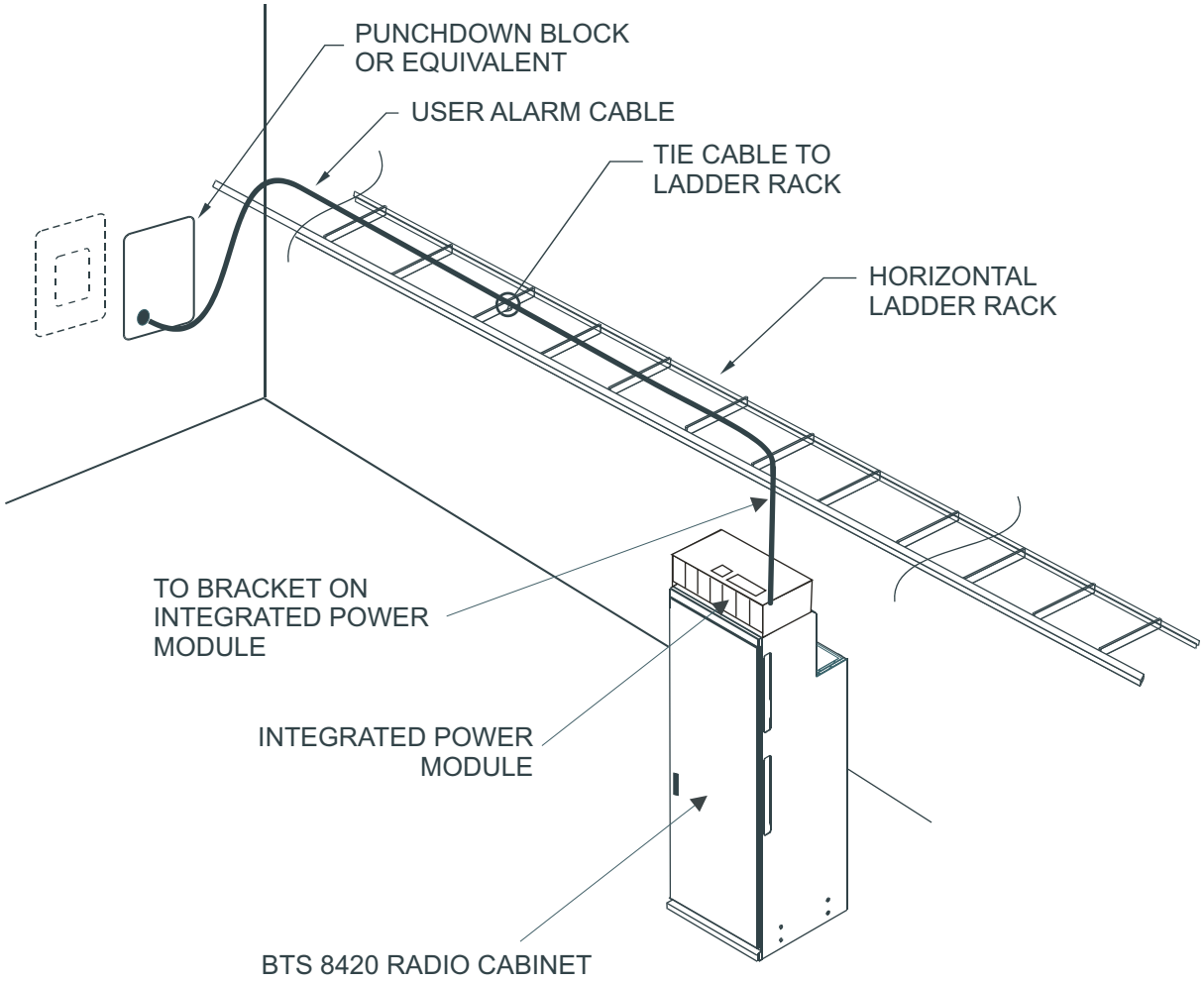
For the BTS 8420 Digital Only version with two Digital Shelves radio cabinet with integrated power, locate the two User Alarm cable(s) shipped with the cabinet. Mark the first cable “Alarms 0-15” at both ends. Mark the second cable (if there is one) “Alarms 16-31“ at both ends. Connect the “Alarms 0-15” cable to the USER ALARMS 0-15 connector on the Integrated Power Module bracket. Connect the “Alarms 16-31” cable to the USER ALARMS 16-31 connector on the Integrated Power Module bracket. Refer to the figure below.



2 Route the User Alarm cable(s) to the location of the punchdown block (or equivalent).

Important! Secure the cable to the ladder rack in accordance with standard procedures, when performing the next step. Be sure to use cable ties.

3 Tie the User Alarm cable(s) to the ladder rack, as shown in the figure below. (This figure applies to BTS 8420 and AWS 8420 radio cabinets.)

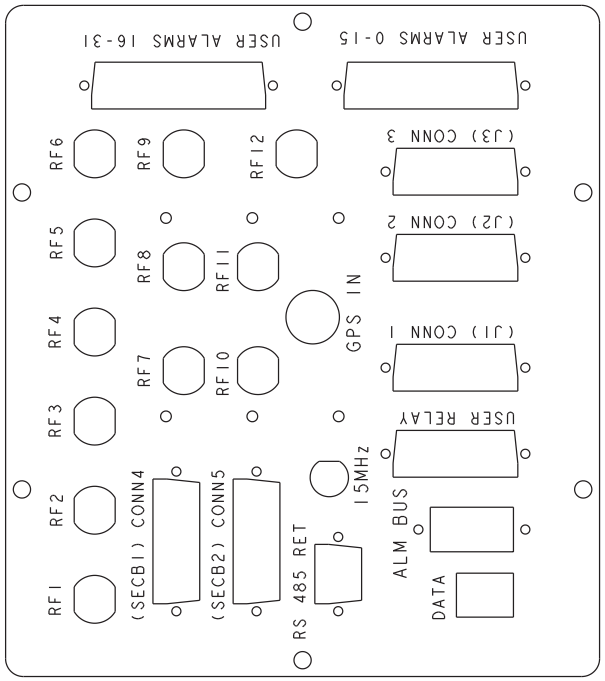

PUNCHDOWN BLOCK
OR EQUIVALENT
USER ALARM CABLE
TIE CABLE TO
LADDER RACK
HORIZONTAL
LADDER RACK
TO BRACKET ON
INTEGRATED POWER
MODULE
INTEGRATED POWER
MODULE
BTS 8420 RADIO CABINET

END OF STEPS

Connect User Alarm cable(s) to BTS 8420/AWS 8420 radio cabinet without integrated power

Perform the following steps when connecting the User Alarm cable(s) to the BTS 8420/AWS 8420 radio cabinet without integrated power.

1 For BTS 8420/AWS 8420 radio cabinets without integrated power only, locate the User Alarm cable(s) that are shipped with the cabinet. Label the first cable “Alarms 16-31” at both ends. Label the second cable “Alarms 0-15” at both ends. Connect the “Alarms 16-31” cable to the Universal Hatchplate on the BTS 8420/AWS 8420 radio cabinet. If using non-Alcatel-Lucent power, connect only “Alarms 0-15” cable to the Universal Hatchplate on the BTS 8420/AWS 8420 radio cabinet. Refer to the figure of the Universal Hatchplate below.

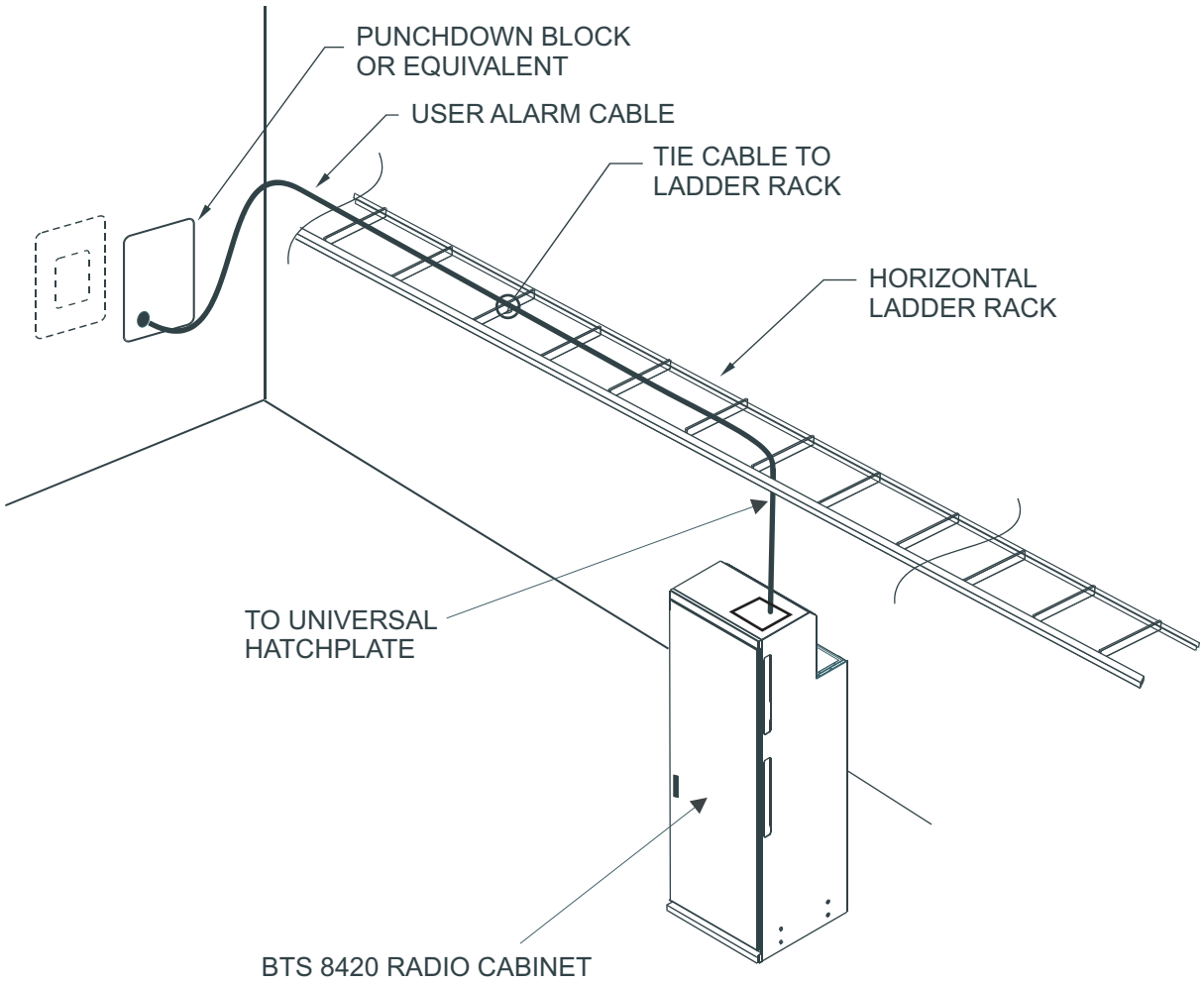


FRONT

2 Route the User ASlarm cable(s) to the location of the punchdown block(s) or equivalent.

Important! Secure the cable to the ladder rack using standard procedures when performing the next step. Be sure to use cable ties.

3 Tie the User Alarm cable(s) to the ladder rack, as shown in the figure below. (This figure applies to BTS 8420 and AWS 8420 radio cabinets.)


PUNCHDOWN BLOCK
OR EQUIVALENT
USER ALARM CABLE
TIE CABLE TO
LADDER RACK
HORIZONTAL
LADDER RACK
TO UNIVERSAL
HATCHPLATE
BTS 8420 RADIO CABINET

END OF STEPS

Connect User Alarm cable(s) to Z-IDC punchdown block(s) (or equivalent) -- for all BTS 8420/AWS 8420 radio cabinets except Digital Only version with two Digital Shelves.

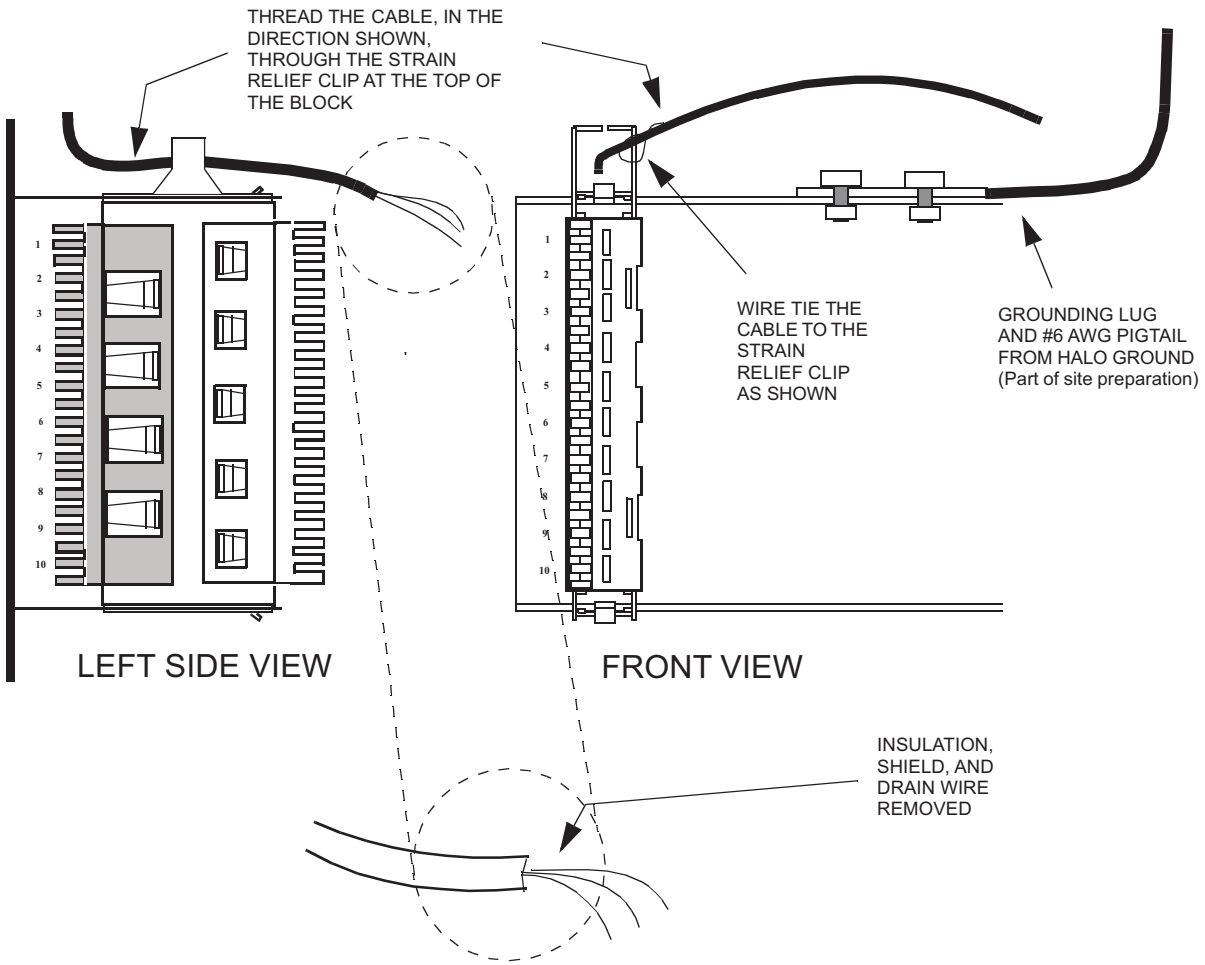
Important! Z-IDC punchdown blocks are used only if the NIU is located more than the 10 meter (33 foot) cable length distance from the BTS 8420/AWS 8420. Otherwise, User Alarm connections are made directly to the NIU. The customer may use the Z-IDC (or NIU) to collect alarm cables from various locations. Use the following steps only if connecting to a Z-IDC. Otherwise, use only the tables to determine how to make connections at NIU.

Use the following procedure to connect the User Alarm cables (External Alarms and Power Alarms, if applicable) to the punchdown terminals on the EQUIPMENT side of the Z-IDC punchdown block(s) (or equivalent), located at the NIU. (Refer to the figure on Page 5-11 for a simplified wiring diagram of User Alarm cabling from the Z-IDC punchdown blocks to the BTS 8420/AWS 8420 radio cabinet.)

1 Locate the cables labeled “Alarms 0-15” and “Alarms 16-31,” and Z-IDC punchdown blocks 7,8,9,10 on the NIU. User Alarms 0-6 are connected to Z-IDC punchdown block 7, User Alarms 7-15 are connected to Z-IDC punchdown block 8, User Alarms 16-23 are connected to Z-IDC punchdown block 9, and User Alarms 24-31 are connected to Z-IDC punchdown block 10. (Refer to the figure on page 5-12 for the location of the punchdown blocks.)

2 Route each User Alarm cable to its corresponding Z-IDC punchdown block and then through the cable strain relief clip on top of the Z-IDC punchdown block. Refer to the figure in the next step.

3 Remove sufficient cable insulation and drain shield so the wires inside the cable reach the terminals on the punchdown block. Refer to the figure below.



The connectorized end of Indoor T1/E1 and user alarm cable shields are bonded to the radio cabinet hatch plate via the D-sub connector.

4 Route the individual wires down and along the side of the Z-IDC punchdown block (closest to the punchdown block terminals) where the connections will be made.

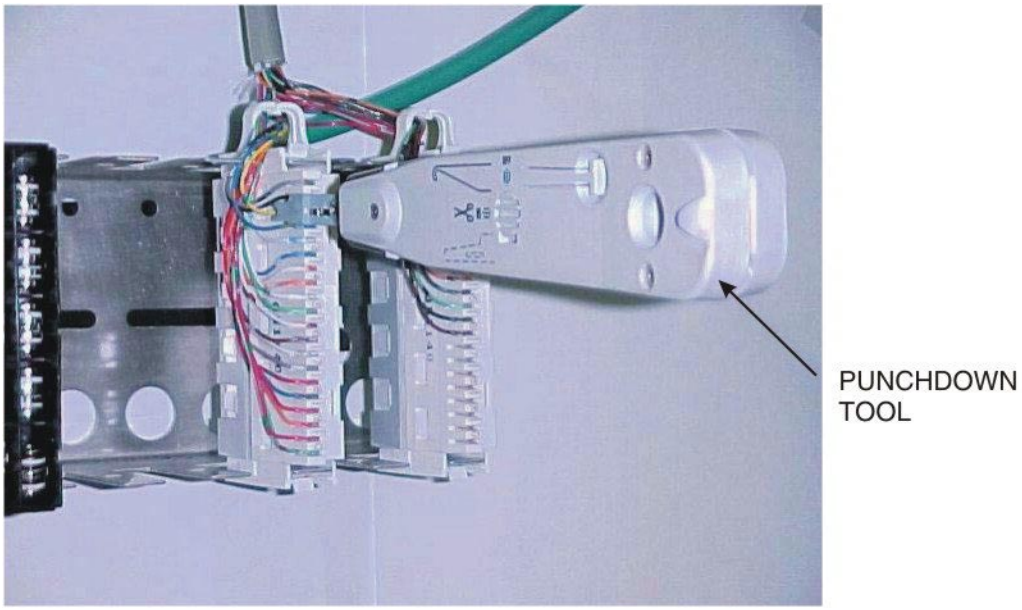
5 Fan out the wires to the punchdown positions. (Be sure to leave plenty of slack.)

6 **WARNING**

Equipment Damage

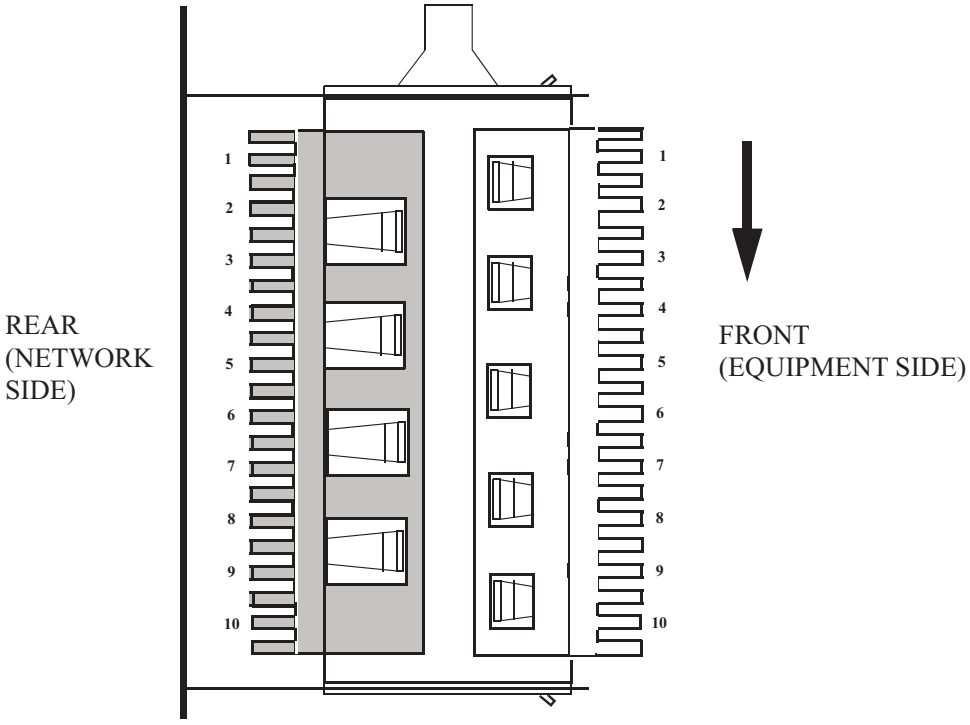
Z-IDC punchdown tool (ITE No. R-6097) must be used when performing the next step. Use of any other tool will damage the Z-IDC punchdown block.

Position the punchdown tool (ITE No. R-6097) so that the cutter faces the middle of the Z-IDC punchdown block. Refer to the figure below.



7 Refer to the figure on page 5-12 and the tables in Step 9. Connect User Alarm twisted-wire pairs *0-6, 7-15, 16-23* and *24-31,* as follows:

- Connect Power Alarm twisted-wire pairs *0-6* to the EQUIPMENT SIDE (see figure below) of punchdown block 7. These go to terminals *1-7* on the punchdown block.
- Connect User Alarm twisted-wire pairs *7-15* to the EQUIPMENT SIDE (see figure below) of punchdown block 8. These go to terminals *1-9* on the punchdown block.
- Connect User Alarm twisted-wire pairs *16-23* to the EQUIPMENT SIDE (see figure below) of punchdown block 8. These go to terminals *1-8* on the punchdown block.
- Connect User Alarm twisted-wire pairs *24-31* to the EQUIPMENT SIDE (see figure below) of punchdown block 9. These go to terminals *1-8* on the punchdown block.



Important! Punchdown connections 0-15 do not apply to the 3GP24i power cabinet. They are used only with non-Alcatel-Lucent power.

8 Cut off any excess wire.

9 The table below lists the connections for User Alarms *0-15* (power and external User Alarms) to be made to the EQUIPMENT SIDE of Z-IDC punchdown blocks 7 and 8.

0-15 Alarm Cable/ connector at BTS 8420/AWS 8420 radio cabinet	Alarm Punchdown Block (Z-IDC or equivalent)	Alarm #	Punchdown position at Equipment side of punchdown block. (Z-IDC block and position.) See Note.	Alarm cable wire color code. To be punched down at customer provided punchdown block at NIU.	Pin # at 37-Pin D-Sub
Alarms 0-6 (37-Pin D-Sub)	Z-IDC block 7. Power alarms for non-Alcatel-Lucent power only. (Punch downs not made for cabinets with integrated power.)	Power 0 Alarm	7-1 Upper	White-Blue	1
			7-1 Lower	Blue-White	20
		Power 1 Alarm	7-2 Upper	White-Orange	2
			7-2 Lower	Orange-White	21
		Power 2 Alarm	7-3 Upper	White-Green	3
			7-3 Lower	Green-White	22
		Power 3 Alarm	7-4 Upper	White-Brown	4
			7-4 Lower	Brown-White	23
		Power 4 Alarm	7-5 Upper	White-Slate	5
			7-5 Lower	Slate-White	24
		Power 5 Alarm	7-6 Upper	Red-Blue	6
			7-6 Lower	Blue-Red	25
		Power 6 Alarm	7-7 Upper	Red-Orange	7
			7-7 Lower	Orange-Red	26

0-15 Alarm Cable/ connector at BTS 8420/AWS 8420 radio cabinet	Alarm Punchdown Block (Z-IDC or equivalent)	Alarm #	Punchdown position at Equipment side of punchdown block. (Z-IDC block and position.) See Note.	Alarm cable wire color code. To be punched down at customer provided punchdown block at NIU.	Pin # at 37-Pin D-Sub
Alarms 7-15 (37-Pin D-Sub)	Z-IDC block 8, external User Alarms	User 7 Alarm	8-1 Upper	Red-Green	8
			8-1 Lower	Green-Red	27
		User 8 Alarm	8-2 Upper	Red-Brown	9
			8-2 Lower	Brown-Red	28
		User 9 Alarm	8-3 Upper	Red-Slate	10
			8-3 Lower	Slate-Red	29
		User 10 Alarm	8-4 Upper	Black-Blue	11
			8-4 Lower	Blue-Black	30
		User 11 Alarm	8-5 Upper	Black-Orange	12
			8-5 Lower	Orange-Black	31
		User 12 Alarm	8-6 Upper	Black-Green	13
			8-6 Lower	Green-Black	32
		User 13 Alarm	8-7 Upper	Black-Brown	14
			8-7 Lower	Brown-Black	33
		User 14 Alarm	8-8 Upper	Black-Slate	15
			8-8 Lower	Slate-Black	34
		User 15 Alarm	8-9 Upper	Yellow-Blue	16
			8-9 Lower	Blue Yellow	35

The following table lists the User Alarm connections *16-31* (external only) at the EQUIPMENT SIDE of Z-IDC punchdown blocks 9 and 10.

16-31 Alarm Cable/ Connector on BTS 8420/AWS 8420 radio cabinet	**Alarm punchdown block (Z-IDC or equivalent)**	**Alarm #**	**Punchdown position at Equipment side of punchdown block. (Z-IDC block and position.) See Note.**	**Alarm wire color code. To be punched down at customer provided punchdown block at NIU.**	**Pin # at 37-Pin D-Sub**
Alarms 16-23 (37-Pin D-Sub)	Z-IDC block 9, external User Alarms	User 16 Alarm	9-1 Upper	White-Blue	1
			9-1 Lower	Blue-White	20
		User 17 Alarm	9-2 Upper	White-Orange	2
			9-2 Lower	Orange-White	21
		User 18 Alarm	9-3 Upper	White-Green	3
			9-3 Lower	Green-White	22
		User 19 Alarm	9-4 Upper	White-Brown	4
			9-4 Lower	Brown-White	23
		User 20 Alarm	9-5 Upper	White-Slate	5
			9-5 Lower	Slate-White	24
		User 21 Alarm	9-6 Upper	Red-Blue	6
			9-6 Lower	Blue-Red	25
		User 22 Alarm	9-7 Upper	Red-Orange	7
			9-7 Lower	Orange-Red	26
		User 23 Alarm	9-8 Upper	Red-Green	8
			9-8 Lower	Green-Red	27

16-31 Alarm Cable/ Connector on BTS 8420/AWS 8420 radio cabinet	Alarm punchdown block (Z-IDC or equivalent)	Alarm #	Punchdown position at Equipment side of punchdown block. (Z-IDC block and position.) See Note.	Alarm wire color code. To be punched down at customer provided punchdown block at NIU.	Pin # at 37-Pin D-Sub
Alarms 24-31 (37-Pin D-Sub)	Z-IDC block 10, external User Alarms	User 24 Alarm	10-1 Upper	Red-Brown	9
			10-1 Lower	Brown-Red	28
		User 25 Alarm	10-2 Upper	Red-Slate	10
			10-2 Lower	Slate-Red	29
		User 26 Alarm	10-3 Upper	Black-Blue	11
			10-3 Lower	Blue-Black	30
		User 27 Alarm	10-4 Upper	Black-Orange	12
			10-4 Lower	Orange-Black	31
		User 28 Alarm	10-5 Upper	Black-Green	13
			10-5 Lower	Green-Black	32
		User 29 Alarm	10-6 Upper	Black-Brown	14
			10-6 Lower	Brown-Black	33
		User 30 Alarm	10-7 Upper	Black-Slate	15
			10-7 Lower	Slate-Black	34
		User 31 Alarm	10-8 Upper	Yellow-Blue	16
			10-8 Lower	Blue Yellow	35

END OF STEPS

Connect User Alarm cable(s) to Z-IDC punchdown block(s) (or equivalent) -- for BTS 8420 Digital Only version with two Digital Shelves.

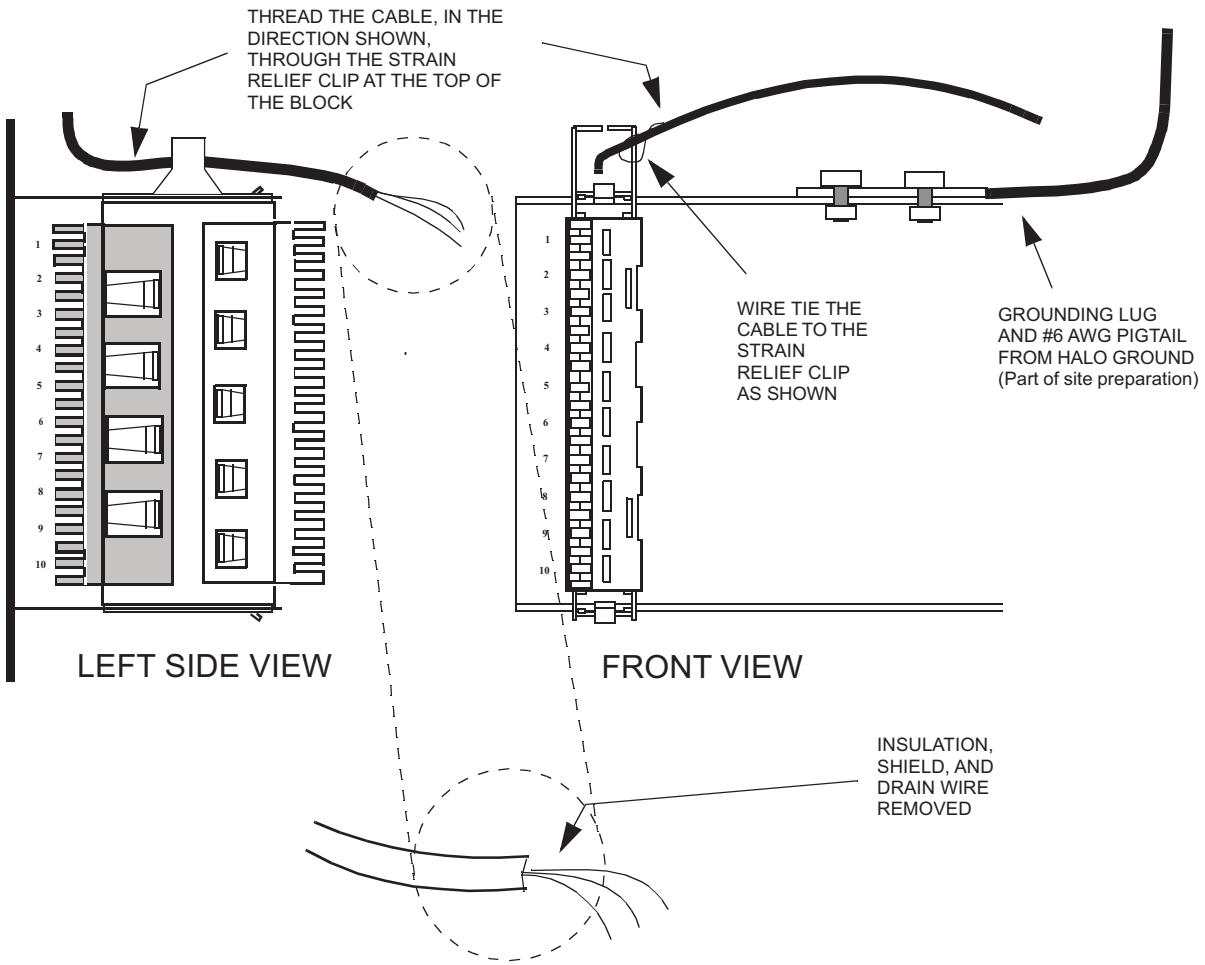
Important! Z-IDC punchdown blocks are used only if the NIU is located more than the 10 meter (33 foot) cable length distance from the BTS 8420. Otherwise, User Alarm connections are made directly to the NIU. The customer may use the Z-IDC (or NIU) to collect alarm cables from various locations. Use the following steps only if connecting to a Z-IDC. Otherwise, use only the tables to determine how to make connections at NIU.

Use the following procedure to connect User Alarm cables (i.e., external User Alarms and Power Alarms) to the punchdown terminals on the EQUIPMENT side of the Z-IDC punchdown block(s), or equivalent, on the NIU. Refer to the figure on page 5-12 for a simplified wiring diagram of the User Alarm cabling from the Z-IDC punchdown blocks to the BTS 8420 radio cabinet with two Digital Shelves.

1 Locate the cables labeled “Alarms 0-15” and “Alarms 16-31,” and Z-IDC punchdown blocks 7,8,9,10 on the NIU. User Alarms 0-6 are connected to Z-IDC punchdown block 7, User Alarms 8-15 are connected to Z-IDC punchdown block 8, and User Alarms 23-31 are connected to Z-IDC punchdown block 10. (Refer to the figure on page 5-13 for the location of the punchdown blocks.)

2 Route each User Alarm cable to its corresponding Z-IDC punchdown block and then through the cable strain relief clip on top of the Z-IDC punchdown block. Refer to the figure in the next step.

3 Remove sufficient cable insulation and drain shield so the wires inside the cable reach the terminals on the punchdown block. Refer to the figure below.



The connectorized end of Indoor T1/E1 and user alarm cable shields are bonded to the radio cabinet hatch plate via the D-sub connector.

4 Route the individual wires down and along the side of the Z-IDC punchdown block (closest to the punchdown block terminals) where the connections will be made.

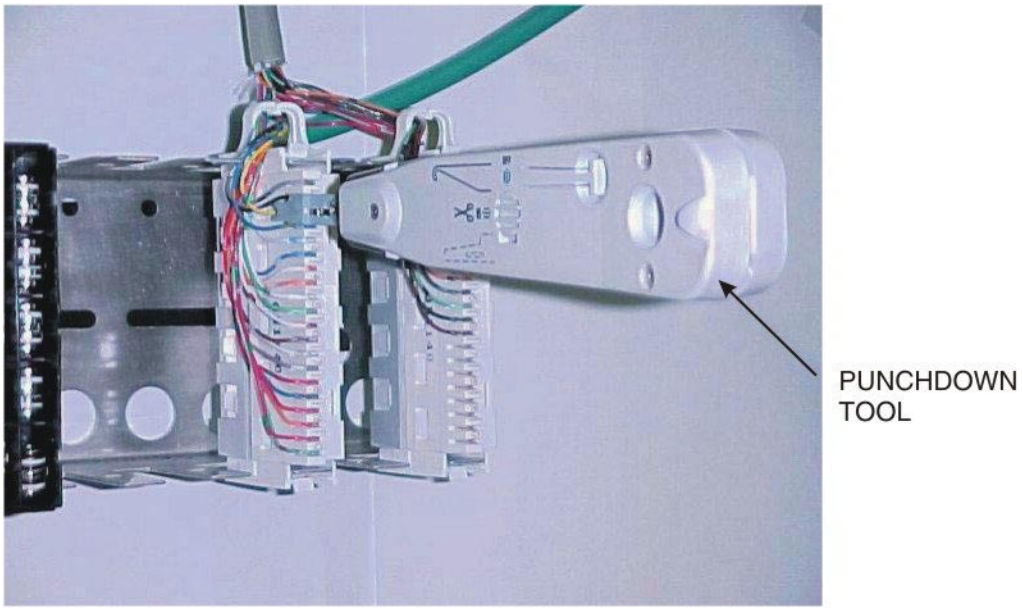
5 Fan out the wires to the punchdown positions. (Be sure to leave plenty of slack.)

6 **WARNING**

Equipment Damage

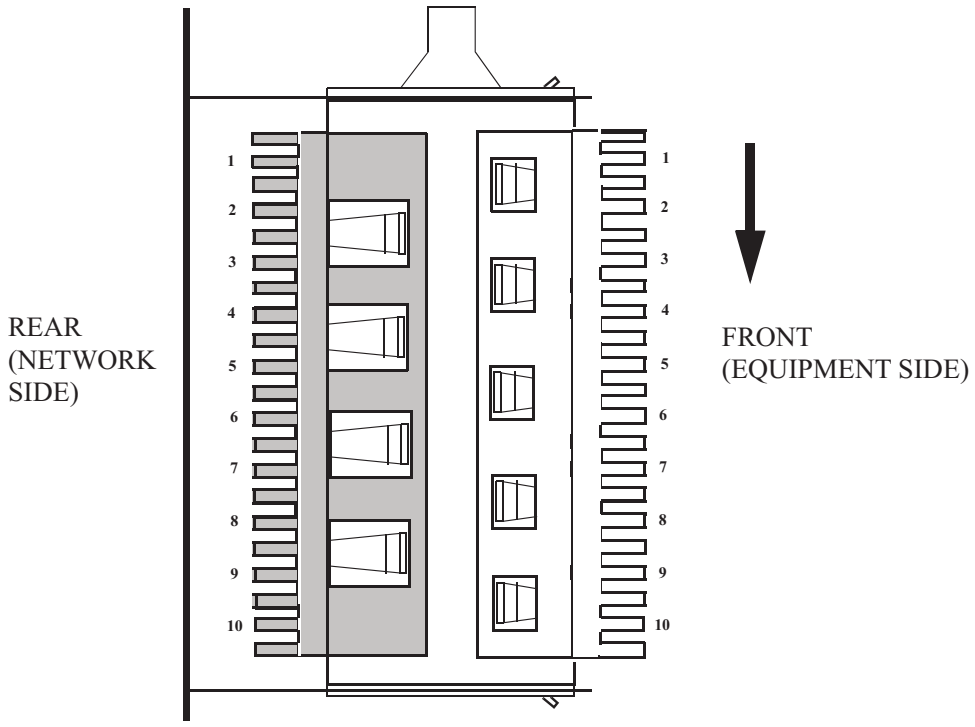
Z-IDC punchdown tool (ITE No. R-6097) must be used when performing the next step. Use of any other tool will damage the Z-IDC punchdown block.

Position the Z-IDC punchdown tool (ITE No. R-6097) so the cutter faces the middle of the Z-IDC punchdown block. Refer to the figure below.



7 Refer to the figure on page 5-13 and the tables in Step 9. Connect the *0-6*, *7-15*, and *23-31* User Alarm twisted-wire pairs as follows:

- Connect User Alarm twisted-wire pairs *0-6* to the EQUIPMENT SIDE (see figure below) of punchdown block 7. These go to terminals *1-7* on the punchdown block.
- Connect User Alarm twisted-wire pairs *7-15* to the EQUIPMENT SIDE (see figure below) of punchdown block 8. These go to terminals *1-9* on the punchdown block.
- If applicable, connect Power Alarm twisted-wire pairs *16-22* to the EQUIPMENT SIDE (see figure below) of punchdown block 9. These go to terminals *1-7* on the punchdown block. (These Power Alarms are for non-Alcatel-Lucent power only. Punch downs are not made for cabinets with integrated power.)
- Connect User Alarm twisted-wire pairs *23-31* to the EQUIPMENT SIDE (see figure below) of punchdown block 10. These go to terminals *1-9* on the punchdown block.



Important! Punchdown connections 0-15 do not apply to the 3GP24i power cabinet. They are used only with non-Alcatel-Lucent power.

8 Cut off any excess wire.

9 The following table lists the connections (to the EQUIPMENT SIDE of Z-IDC punchdown blocks 7 and 8) for User Alarms *0-15*.

0-15 Alarm Cable/ Connector at BTS 8420 Radio Cabinet	Alarm Punchdown Block (Z-IDC or equivalent)	Alarm #	Punchdown position at Equipment side of punchdown block. (Z-IDC block and position.) See Note.	Alarm wire color code. To be punched down at customer provided punchdown block at NIU.	Pin # at 37-Pin D-Sub
Alarms 0-15 (37-Pin D-Sub)	Z-IDC block 7 Power alarms (Non-Alcatel-Lucent power only). Punch downs not made for integrated power.	Power 0 Alarm	7-1 Upper	White-Blue	1
			7-1 Lower	Blue-White	20
		Power 1 Alarm	7-2 Upper	White-Orange	2
			7-2 Lower	Orange-White	21
		Power 2 Alarm	7-3 Upper	White-Green	3
			7-3 Lower	Green-White	22
		Power 3 Alarm	7-4 Upper	White-Brown	4
			7-4 Lower	Brown-White	23
		Power 4 Alarm	7-5 Upper	White-Slate	5
			7-5 Lower	Slate-White	24
		Power 5 Alarm	7-6 Upper	Red-Blue	6
			7-6 Lower	Blue-Red	25
		Power 6 Alarm	7-7 Upper	Red-Orange	7
			7-7 Lower	Orange-Red	26

0-15 Alarm Cable/ Connector at BTS 8420 Radio Cabinet	Alarm Punchdown Block (Z-IDC or equivalent)	Alarm #	Punchdown position at Equipment side of punchdown block. (Z-IDC block and position.) See Note.	Alarm wire color code. To be punched down at customer provided punchdown block at NIU.	Pin # at 37-Pin D-Sub
Alarms 0-15 (37-Pin D-Sub)	Z-IDC BLOCK 8 External User Alarms	User 7 Alarm	8-1 Upper	Red-Green	8
			8-1 Lower	Green-Red	27
		User 8 Alarm	8-2 Upper	Red-Brown	9
			8-2 Lower	Brown-Red	28
		User 9 Alarm	8-3 Upper	Red-Slate	10
			8-3 Lower	Slate-Red	29
		User 10 Alarm	8-4 Upper	Black-Blue	11
			8-4 Lower	Blue-Black	30
		User 11 Alarm	8-5 Upper	Black-Orange	12
			8-5 Lower	Orange-Black	31
		User 12 Alarm	8-6 Upper	Black-Green	13
			8-6 Lower	Green-Black	32
		User 13 Alarm	8-7 Upper	Black-Brown	14
			8-7 Lower	Brown-Black	33
		User 14 Alarm	8-8 Upper	Black-Slate	15
			8-8 Lower	Slate-Black	34
		User 15 Alarm	8-9 Upper	Yellow-Blue	16
			8-9 Lower	Blue Yellow	35

The following table lists the connections (external only), to the EQUIPMENT side of Z-IDC punchdown block 10, for User Alarms *16-31*. (User Alarms 16-22 are not available for integrated power.)

16-31 Alarm cable/ Connector onBTS 8420 radio cabinet	Alarm punchdown block (Z-IDC or equivalent)	Alarm #	Punchdown position at Equipment side of punchdown block. (Z-IDC block and position.) See Note.	Alarm wire color code. To be punched down at customer provided punchdown block at NIU.	Pin # at 37-Pin D-Sub
Alarms 16-22 (37-Pin D-Sub)	Z-IDC block 7 Power alarms for non-Alcatel-Lucent power only. Punch downs not made for cabinets with integrated power.	Power 16 Alarm	9-1 Upper	White-Blue	1
			9-1 Lower	Blue-White	20
		Power 17 Alarm	9-2 Upper	White-Orange	2
			9-2 Lower	Orange-White	21
		Power 18 Alarm	9-3 Upper	White-Green	3
			9-3 Lower	Green-White	22
		Power 19 Alarm	9-4 Upper	White-Brown	4
			9-4 Lower	Brown-White	23
		Power 20 Alarm	9-5 Upper	White-Slate	5
			9-5 Lower	Slate-White	24
		Power 21 Alarm	9-6 Upper	Red-Blue	6
			9-6 Lower	Blue-Red	25
		Power 22 Alarm	9-7 Upper	Red-Orange	7
			9-7 Lower	Orange-Red	26

16-31 Alarm cable/ Connector onBTS 8420 radio cabinet	Alarm punchdown block (Z-IDC or equivalent)	Alarm #	Punchdown position at Equipment side of punchdown block. (Z-IDC block and position.) See Note.	Alarm wire color code. To be punched down at customer provided punchdown block at NIU.	Pin # at 37-Pin D-Sub
Alarms 23-31 (37-Pin D-Sub)	Z-IDC BLOCK 10 External User Alarms	User 23 Alarm	10-1 Upper	Red-Green	8
			10-1 Lower	Green-Red	27
		User 24 Alarm	10-2 Upper	Red-Brown	9
			10-2 Lower	Brown-Red	28
		User 25 Alarm	10-3 Upper	Red-Slate	10
			10-3 Lower	Slate-Red	29
		User 26 Alarm	10-4 Upper	Black-Blue	11
			10-4 Lower	Blue-Black	30
		User 27 Alarm	10-5 Upper	Black-Orange	12
			10-5 Lower	Orange-Black	31
		User 28 Alarm	10-6 Upper	Black-Green	13
			10-6 Lower	Green-Black	32
		User 29 Alarm	10-7 Upper	Black-Brown	14
			10-7 Lower	Brown-Black	33
		User 30 Alarm	10-8 Upper	Black-Slate	15
			10-8 Lower	Slate-Black	34
		User 31 Alarm	10-9 Upper	Yellow-Blue	16
			10-9 Lower	Blue Yellow	35

END OF STEPS

Balun block connections (if applicable)

Overview

Purpose

This section describes how to connect T1/E1 lines when a Balun Block is used.

In the event the Balun Blocks provided to the customer are Alcatel-Lucent Balun Blocks, instructions are provided to the installer for installing and connecting one to three T1/E1 cables from the BTS 8420/AWS 8420 radio cabinet to one to three Balun Blocks. The Balun Blocks must be located within the 10 meter (33 foot) cable length distance from the BTS 8420/AWS 8420 radio cabinet. Four loose RJ-45 connectors (shipped with the Balun Block) must be connected to the end of the T1/E1 cables that connect to the Balun Block.

Contents

How to connect twisted-wire pairs in T1/E1 cable(s) to Balun Blocks

Before you begin

This module provides instructions to the installer for installating and connecting one to three T1/E1 cables from the BTS 8420/AWS 8420 radio cabinet to one to three Balun Blocks. (The Balun Blocks are customer provided and installed.)

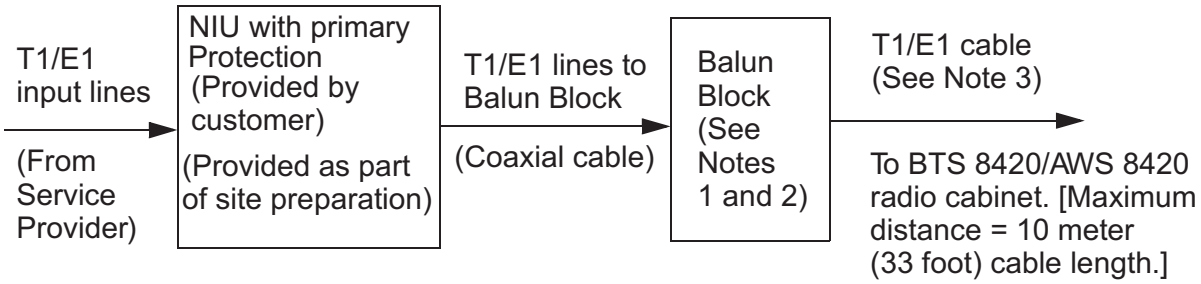
"Connect RJ-45 connectors to twisted-wire pairs in T1/E1 cable(s) " (p. 5-64)

"Connect RJ-45 connectors to Balun Blocks" (p. 5-66)

Balun Block description

The customer is responsible for converting 75 ohm unbalanced coaxial cable to 120 ohm balanced twisted pair if the incoming facility provides 75 ohm unbalanced coaxial cable. Conversion of 75 ohm unbalanced coaxial cable to 120 ohm balanced twisted pair is accomplished with an Alcatel-Lucent Balun Block, or equivalent.

Important! The Balun Block must be installed within the 10 meter (33 foot) cable length from the BTS 8420/AWS 8420 radio cabinet. The T1/E1 cable is connected directly to the Balun Block. Four RJ-45 loose connectors are provided with each Balun block and must be installed on each T1/E1 cable that goes from the BTS 8420/AWS 8420 to the Balun Block, during installation of the BTS 4400 radio cabinet. Refer to the figure below.



Note 1: Z-IDC block not required when Balun Block is used.

Note 2: Balun Block must be located not more than the 10 meter (35 foot) cable length distance from radio cabinet.

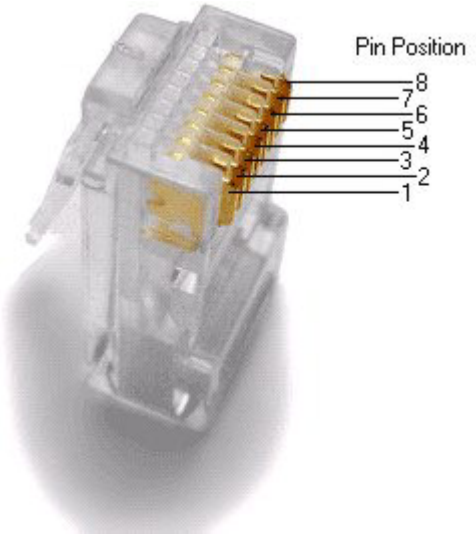
Note 3: RJ-45 connectors installed on loose end of T1/E1 cables and connected to Balun Block during installation of radio cabinet.

The Step 7 table that follows, provides punchdown and wire color code information for the T1/E1 cable that is to be connected from the Balun Block to the BTS 8420/AWS 8420 radio cabinet. The customer must label each Balun Block with the cable name of the cable that is to be connected to it.

The table notes in the table that follows describe the three cable possibilities (one Balun Block is required for each T1/E1 cable) and URC/URCII, Voice, and Data assignments.

Connect RJ-45 connectors to twisted-wire pairs in T1/E1 cable(s)

The following figure shows the RJ-45 connector and its pins, which are numbered.



Use the following procedure to attach four RJ-45 connectors to the eight twisted-wire pair in the T1-1 (first) T1/E1 cable (two twisted-wire pairs connect to each RJ-45 connector).

1 Locate the cable marked T1-1 and the Balun Block for cable T1-1. (This was assigned by the customer during site preparation.)

2 Obtain the four RJ-45 connectors supplied with the Balun Block.

Important! When performing the next step, use RJ-45 connector crimping tool R-5520 to connect the twisted-wire pairs to the RJ-45 connectors.

3 Consult the Step 7 table below for twisted-wire pair color codes. Connect each twisted-wire pair to the first RJ-45 connector, as follows

- White-Blue to Pin 1
- Blue-White to Pin 2
- White-Orange to Pin 4 (Do not use pin 3)
- Orange-White to Pin 5

If unsure of a color code, refer to the ”25-pin, D-sub pin number” column in the Step 7 table below. Then check for continuity.

4 Carefully mark this RJ-45 as “Connector 1.”

5 Repeat steps 3 and 4 for the remaining three RJ-45 connectors. Observe correct color codes in table.

Mark the connectors as follows:

- “Connector 2”
- “Connector 3”
- “Connector 4”

6 If applicable, locate the cable marked T1-2 and repeat Steps 2 through 5.

7 If applicable, locate the cable marked T1-3 and repeat Steps 2 through 5.

The following table provides the wire color codes for the twisted-wire pairs in the T1/E1 cable so the RJ-45 connectors can be connected to cables T1-1, T1-2 and T1-3. Cables T1-1, T1-2 and T1-3 are subsequently connected to the appropriate Balun Block.

The table applies to the T1/E1 connections from the BTS 4400 radio cabinet to the Balun Block.

END OF STEPS

Customer must label each Balun Block with cable name of cable that will be connected to it				
Cable Name (With URC/ URCII and Voice/Data assignments)	Connector number on RJ-45 Balun Block	Pin number on RJ-45 connector	Color codes for twisted-wire pairs	Pin number on 25-pin, D-sub connector
Cables: • T1-1 • T1-2 • T1-3 Refer to Note 1 below, for URC/URCII and Voice/Data assignments by cable name.	1	1	White-Blue	2
		2	Blue-White	1
		4	White-Orange	16
		5	Orange-White	15
	2	1	White-Green	5
		2	Green-White	4
		4	White-Brown	19
		5	Brown-White	18
	3	1	White-Slate	8
		2	Slate-White	7
		4	Red-Blue	22
		5	Blue-Red	21
	4	1	Red-Orange	11
		2	Orange-Red	10
		4	Red-Green	25
		5	Green-Red	24
Note 1: The three cable possibilities (one Balun Block per cable) and URC/URCII, Voice, and Data assignments are as follows: • Cable T1-1, URC/URCII, Position 1, Data or Voice, Mutually exclusive • Cable T1-2, URC/URCII, Position 2, Voice Only • Cable T1-3, URC/URCII, Position 3, Voice Only				

Connect RJ-45 connectors to Balun Blocks

Use the following procedure to connect four RJ-45 connectors in the T1 cables to the Balun Block.

1 Refer to the above table for Balun Block connections.

2 Connect four previously labeled T1-1 cable RJ-45 connectors to corresponding RJ-45 jacks on Balun Block.

3 Repeat the previous step for cables T1-2 and T1-3, if applicable.

END OF STEPS

□

6 Power connections

Overview

Purpose

This chapter provides instructions for connecting AC, DC, and customer-supplied power to the BTS 8420 radio cabinet with integrated power. (Note that the Integrated Power Module is field installed.) Procedures are provided for:

- connecting customer-supplied power to a BTS 8420/AWS 8420 radio cabinet (references DC and alarm connections)
- connecting AC power to a BTS 8420/AWS 8420 radio cabinet with integrated power
- connecting first and second EZBFi battery frames to a BTS 8420/AWS 8420 radio cabinet with integrated power

Installation of rectifiers in the Integrated Power Module is covered in Chapter 7, "Component installation in Integrated Power Module". Installation of batteries in the EZBFi is covered in the *EZBFi Modular Battery System Installation Manual for +24V and -48V*, 401-703-507.

Contents

Customer-supplied power

Overview

Purpose

This section provides the references required for customer supplied power.

References

For AC/DC power and power system alarm requirements, refer to Appendix E in the *Alcatel-Lucent CDMA Base Station BTS 8420/AWS 8420 Indoor Site Preparation Guidelines*, 401-703-443.

Refer to the applicable vendor documentation if the requirements listed in the applicable document have been met. Then use the chapter and page references given below for instructions to connect the indoor radio cabinet and external punchdowns, if applicable.

Contents

Safety precautions

The following safety precautions should be read and understood before starting the installation of power cables.

WARNING

Electrical Energy Hazard

Failure to follow the order of the installation procedure (as written) can result in an energized AC or DC circuit, which creates an electrical shock hazard.

Follow these rules:

1. *Perform installation steps in the order provided.*
2. *Do not connect AC power until instructed to do so.*
3. *When installing battery modules, do not connect battery disconnect cables on the battery retaining brackets until instructed to do so.*
4. *When installing battery modules, do not connect DC cables until instructed to do so.*
5. *Observe and strictly follow all additional safety precautions.*
6. *When completing electrical connections, always use tools that are properly insulated.*

CAUTION

Damage to electronic components

Handling of plug-in modules without the use of an ESD wrist strap can result in damage to electronic circuits.

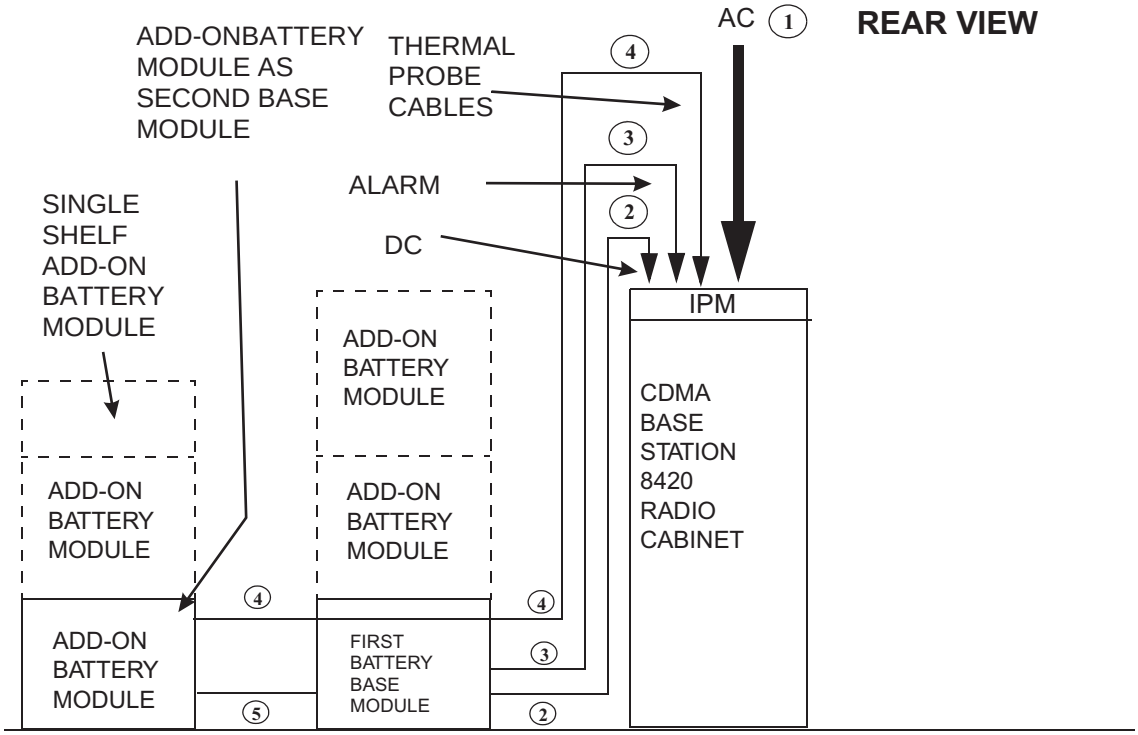
Always wear a properly grounded ESD strap and follow ESD procedures when handling any electronic components.

□

Power wiring overview

This chapter provides instructions for the power interconnections between the EZBFi battery frames and the integrated power module on the integrated power version of the radio cabinet, as well as the AC utility connection to the integrated power module. Refer to the figure below for a key to the following numbered list.

1. AC utility connection to the integrated power module
2. DC cable connections between the first EZBFi battery base module and the integrated power module
3. Fuse alarm cable connections between the first battery base module and the integrated power module (combined with #4)
4. Thermal probe cable connection between the battery base modules and the integrated power module (combined with #3)
5. DC cable connections between the first EZBFi battery base module and the second EZBFi battery base module.



* Power alarm connections to the radio cabinet were covered in Chapter 5.

Installation of integrated power AC connections

Overview

Purpose

This section describes the instructions for making AC utility power connections to the BTS 8420/AWS 8420 radio cabinet having an Integrated Power Module.

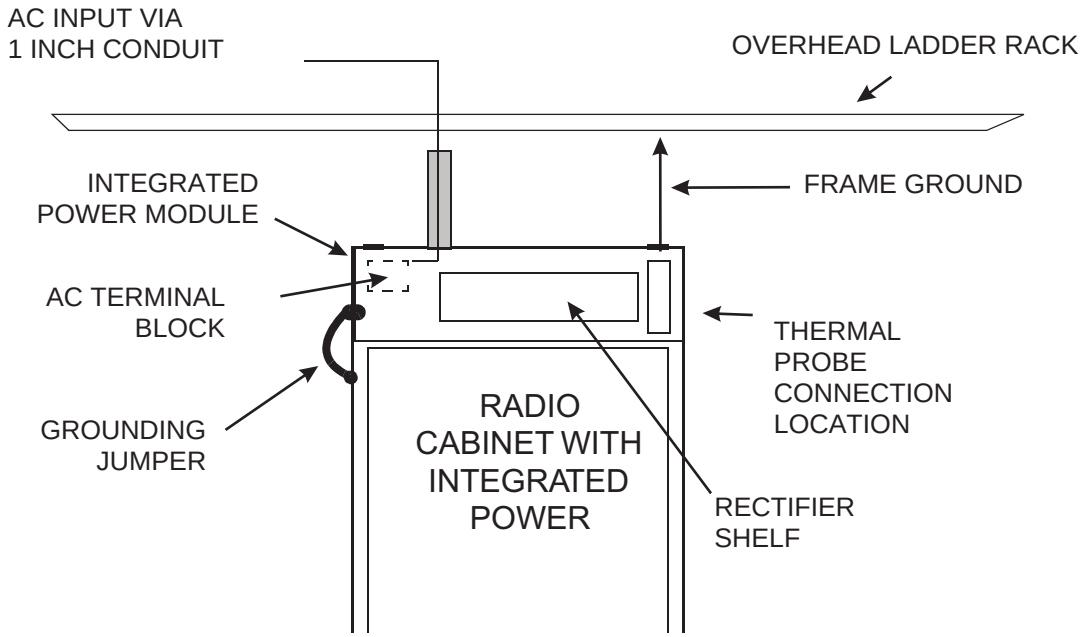
Note that grounding cables were installed in Chapter 4, “Transport, mount, and ground cabinet” after placement and anchoring of the BTS 8420 radio cabinet.

Contents

Wiring overview

Wiring overview

AC utility power input enters the Integrated Power Module on the top of the unit. AC power is connected to the AC terminal block. Refer to the following figure for an overview illustration.



How to install the integrated power AC connections

Overview

This procedure module provides instructions for the connection of the AC utility power wires to a BTS 8420/AWS 8420 radio cabinet that is equipped with integrated power. Since this procedure may be performed by a licensed electrician (depending upon local regulations), these steps are supplied for reference only.

If the AC utility connections are to be performed by a licensed electrician, this activity must be coordinated with the work of the BTS 8420 radio cabinet installers in order to avoid unnecessary delays.

Step-by-step instructions are provided for the following tasks:

Safety precautions

Observe the following safety precautions

CAUTION

Equipment Damage / Inspection Failure

Damage to equipment, safety hazards, or failure to pass inspection can occur if all applicable codes and regulations are not followed.

Follow all local codes and practices when performing the steps to connect AC to the Integrated Power Module.

DANGER

Electrical Energy Hazard

Electrical circuits can become energized, resulting in an electrical shock hazard.

Follow these rules:

1. *Ensure that the circuit breaker for each AC input is turned OFF and tagged out.*
2. *Follow the procedures in the order provided. Always install earth ground connection before connecting AC power to the Integrated Power Module.*

Description of AC utility power connections

The BTS 8420 radio cabinet described in this chapter is equipped with an Integrated Power Module. The Integrated Power Module accepts a 1-inch conduit (flexible metallic or rigid per local code) for the AC power supply wires. The AC wires enter through the top of the module. The Integrated Power Module is equipped with an AC terminal block at the top interior left side of the Integrated Power Module, for connecting the AC wires that power up to six rectifiers in the module. The customer provides the AC service and the flexible metallic conduit as part of site preparation.

Before you begin

The AC cable should be installed from the service panel to the area of the Integrated Power Module as part of site preparation. If this has not been done, contact your supervisor and the customer contact.

Verify that the circuit breakers for the AC feeder wires are off, locked out, and tagged at the AC service panel.

Verify that the GPS antenna, BTS 8420 radio cabinet and associated equipment have been properly grounded.

Connect 1-inch AC flexible metallic conduit to Integrated Power Module on top of BTS 8420/AWS 8420 radio cabinet

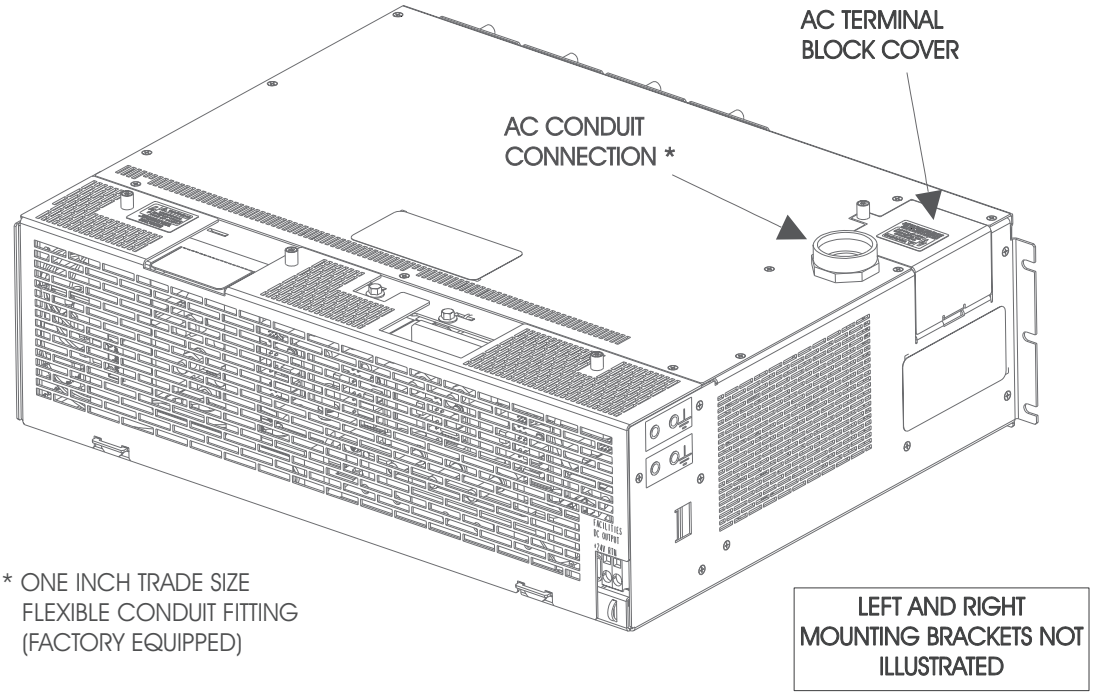
Use the following procedure to connect the 1-inch AC flexible metallic conduit to the Integrated Power Module on top of the cabinet.

1 Locate the AC flexible metallic conduit connection access opening on the Integrated Power Module at the top of the BTS 8420 radio cabinet. Refer to the following figure.

2 Locate the AC flexible metallic conduit, which is provided by the customer.

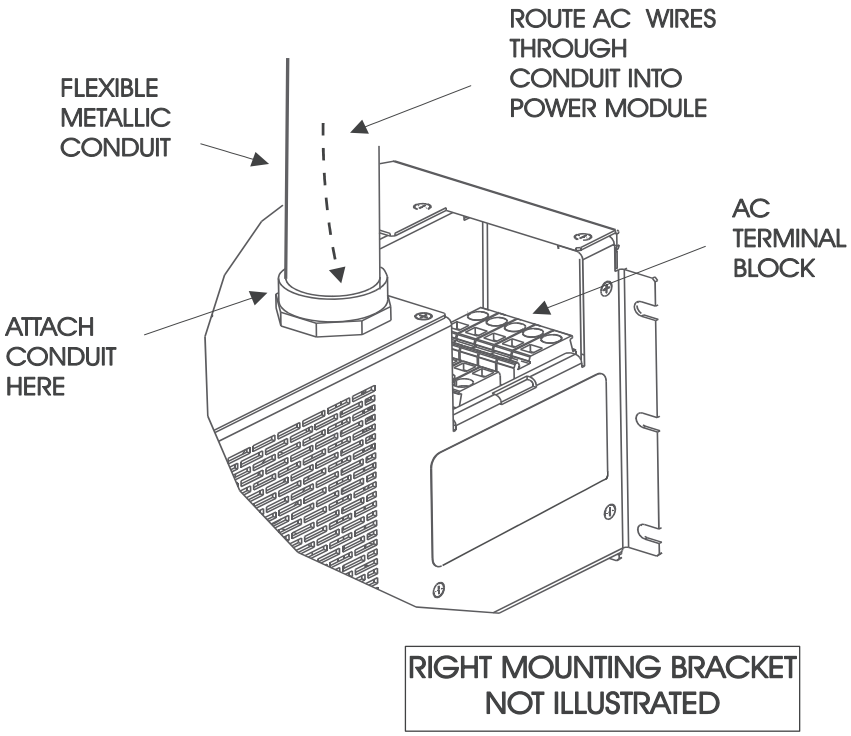
3 Verify that the main panel breaker(s) that supply AC power are OFF and that clearly label (tag out) the circuit breaker panel, stating that installers are working on the AC wiring.

4 Remove the AC terminal block cover from the Integrated Power Module by unscrewing the captivated Phillips head screw on the top. Refer to the following figure.



5 Thread the AC wires from the flexible metallic conduit and into the top of the Integrated Power Module through the access opening. Refer to the following figure.

6 Attach the AC cable flexible metallic conduit to the top of the Integrated Power Module at the access opening. Refer to the following figure.


ROUTE AC WIRES THROUGH CONDUIT INTO POWER MODULE
FLEXIBLE METALLIC CONDUIT
AC TERMINAL BLOCK
ATTACH CONDUIT HERE
RIGHT MOUNTING BRACKET NOT ILLUSTRATED

END OF STEPS

Route and connect AC wires in Integrated Power Module

Use the following procedure to route and connect the AC wires in the Integrated Power Module.

1 Verify that the main panel breaker(s) that supply AC power are OFF and that the panel has been clearly labeled (tagged out) stating that installers are working on the AC cabling.

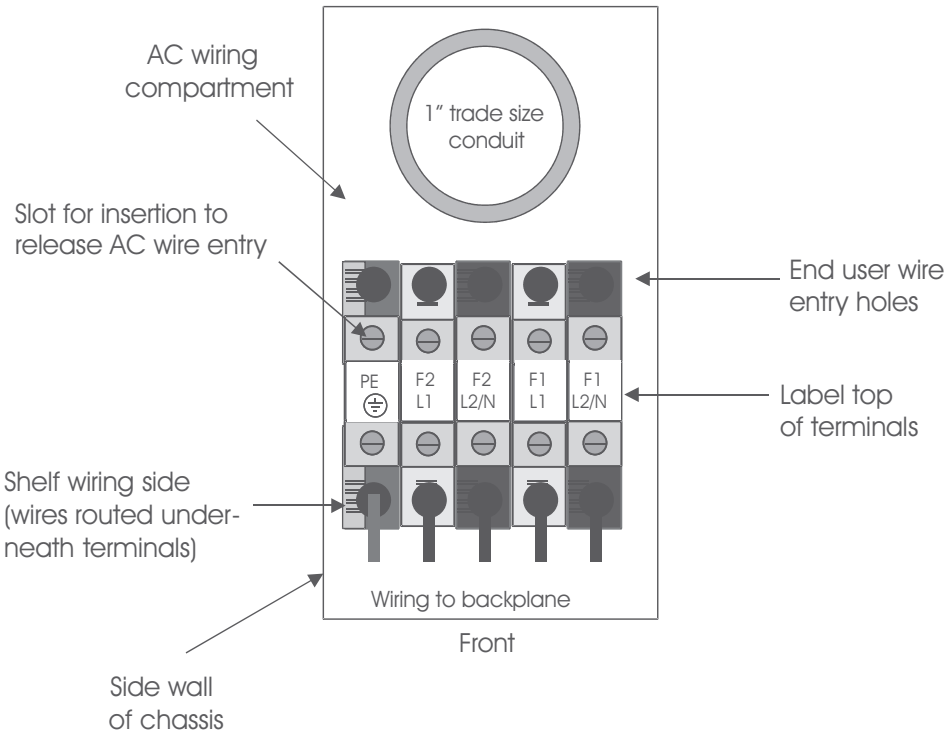
2 Route the AC wires and the grounding wire from the access opening, inside the top of the Integrated Power Module, and to the AC terminal block.

3 Position the AC wires at the AC terminal block and cut them to length.

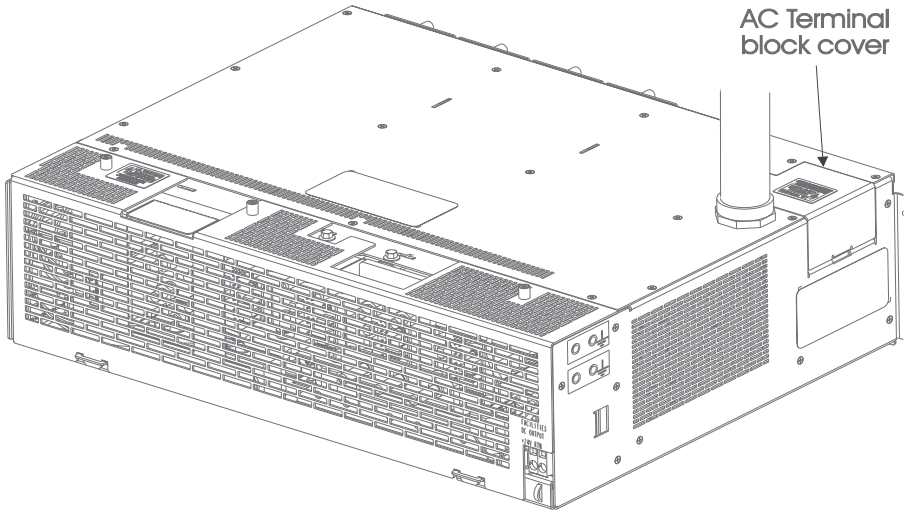
4 Strip approximately 19 mm (3/4 inches) of insulation from the end of each wire.

5 The location, color, function, and size of each wire in the AC input is shown in the table below. Use a small flat blade screwdriver, in each terminal insertion slot, to release each terminal input for insertion of the individual wires.

Location/Color/Voltage		Wire size	Function	Circuit
Domestic - 208 - 240 VAC	**International - 230 VAC**			
F1 L1 / Black	**F1 L1 / Brown**	**8 AWG**	Feeder Line1	Branch Circuit 1
F1 L2 / Red	**F1 N / Blue**	**8 AWG**		
⏚ **/ Green/Yellow**	**PE / Green/Yellow**	**8 AWG**	Ground	--
F2 L1 / Black	**F2 L1 / Brown**	**8 AWG**	Feeder Line2	Branch Circuit 2
F2 L2 / Red	**F2 N / Blue**	**8 AWG**		



6 Replace the AC access cover and tighten the screw. Refer to the Step 4 figure in Step 4 and the following figure.



7 At the AC main distribution panel, check the label for each breaker. If they are not correct, relabel them to correspond to each circuit.

Important! Do *not* turn on AC power at this time.

END OF STEPS

□

7 Component installation in Integrated Power Module

Overview

Purpose

This chapter provides instructions for installing rectifiers in the integrated power module.

Contents

How to install rectifiers in Integrated Power Module

Overview

This procedure module provides instructions for installing the rectifiers in the integrated power module.

Description of rectifiers and shelves

The rectifiers are shipped separately if the radio cabinet is equipped with an integrated power module. You may want to refer to the installation instructions provided in the integrated power module kit (109601302) at this point.

The integrated power module has one rectifier shelf. The rectifier shelf can support up to six KS-24734 rectifiers.

The rectifiers must be installed, starting with Rectifier #1, as shown in the figure below.

Preventing Equipment damage

CAUTION

ESD hazard

Semiconductor elements can be damaged by static discharges.

The following rules must be complied with when handling any module containing semiconductor components:

- *Wear conductive or antistatic working clothes (e.g., coat made of 100% cotton.*
- *Wear grounded ESD wrist strap.*
- *Wear shoes with conductive soles on a conductive floor surface or conductive work mat.*
- *Leave the modules in their original packaging until ready for use.*
- *Make sure there is no difference in potential between yourself, the workplace, and the package before removing, unpacking, or packing a module.*
- *Hold the module only by the grip without touching the connection pins, tracks, or components.*
- *Place modules removed from the equipment on a conductive surface.*
- *Test or handle the module only with grounded tools on grounded equipment.*
- *Handle defective modules exactly like new ones to avoid causing further damage.*

Number of required rectifiers

Use the following procedure to install the KS-24734 rectifier(s) in the radio cabinet. The number of rectifiers is specified in the ERD and depends upon how many carriers there are.

Install the rectifiers in the integrated power module

Use the following procedure to install the rectifier(s) for the integrated power module on the radio cabinet.

1 Insert, from left to right, the required number of rectifier modules KS-24734 that are needed to power the base station. Remove cover plates from slots 3 through 6, as needed. Secure each rectifier by turning the latch mechanism CW with a flat head screwdriver until it is fully seated. Do not over tighten. Refer to the figure below.

Important! Proceed to the EZBFi Installation Manual to continue the installation.

END OF STEPS

□

8 Finishing the installation

Overview

Purpose

This chapter provides information for finishing the installation of the BTS 8420 radio cabinet and EZBFi battery modules.

Contents

General

Overview

Purpose

This section provides general information for finishing the installation of the BTS 8420/AWS 8420 radio cabinet.

Contents

Antenna connections

Verify GPS antenna connection

Verify that the GPS antenna is properly connected, as outlined in Chapter 5 of this document. Verify that it meets all of the appropriate guidelines in accordance with the following documents:

- *Alcatel-Lucent CDMA Base Station BTS 8420/AWS 8420 Indoor Site Preparation Guidelines,* 401-703-443
- *Grounding and Lightning Protection Guidelines for Alcatel-Lucent Network Wireless System Cell Sites,* 401-200-115

  Important! The GPS antenna *must* be connected to the radio cabinet prior to "Initial start up and system test." Refer to Chapter 5, "Connecting cables to BTS 8420/AWS 8420 radio cabinet". Do *not* connect RF (Tx and Rx) antenna jumper cables.

Verify RF antennas not connected

The RF (Tx and Rx) antennas, if present, *must* not be connected until initial start-up and system test has been performed.

□

Initial start-up and system test

Perform initial start-up and system test

Initial start-up and system test can be performed if the following tasks are completed:

- All cabinets are installed as specified in this document.
- The GPS antenna cable is connected.
- RF antenna jumper cables, if present, are *not* connected to the radio cabinet.

Important! The procedures for initial start-up and testing are not covered in this document. Refer to *CDMA Modcell and Base Station Integration Engineering Handbook (IEH 238)*.

□

Install RF antenna jumper cables (indoor)

Important! It is recommended that the RF antenna jumper cables be connected to the BTS 8420 radio cabinet after the BTS 8420 radio cabinet power cabinet has been turned on and initial start-up and system test have been completed.

Overview

This procedure module provides instructions for installing the six RF antenna jumper cables at the BTS 8420/AWS 8420 radio cabinet.

Contents

Step-by-step instructions are provided for the following tasks:

Description of indoor RF antenna jumper cables

The BTS 8420 radio cabinet requires six RF antenna jumper cables. The RF antenna jumper cables will be attached to the six RF antenna connections at the top rear of the BTS 8420/AWS 8420 radio cabinet. Refer to figure after Step 5Step 5.

Each RF antenna jumper cable connects directly to an assigned antenna connection at the customer provided DAS.

Connect RF antenna jumper cables to BTS 8420/AWS 8420 radio cabinet

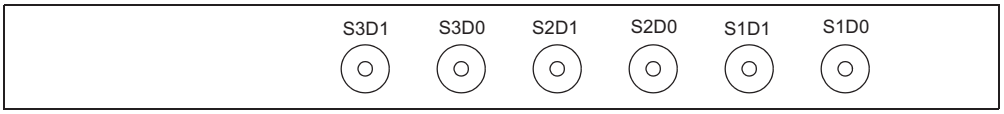
Use the following procedure to connect the RF antenna jumper cables to the BTS 8420/AWS 8420 radio cabinet.

1 **Important!** When performing the next step, note that right angle connectors may be used at the radio cabinet connections.

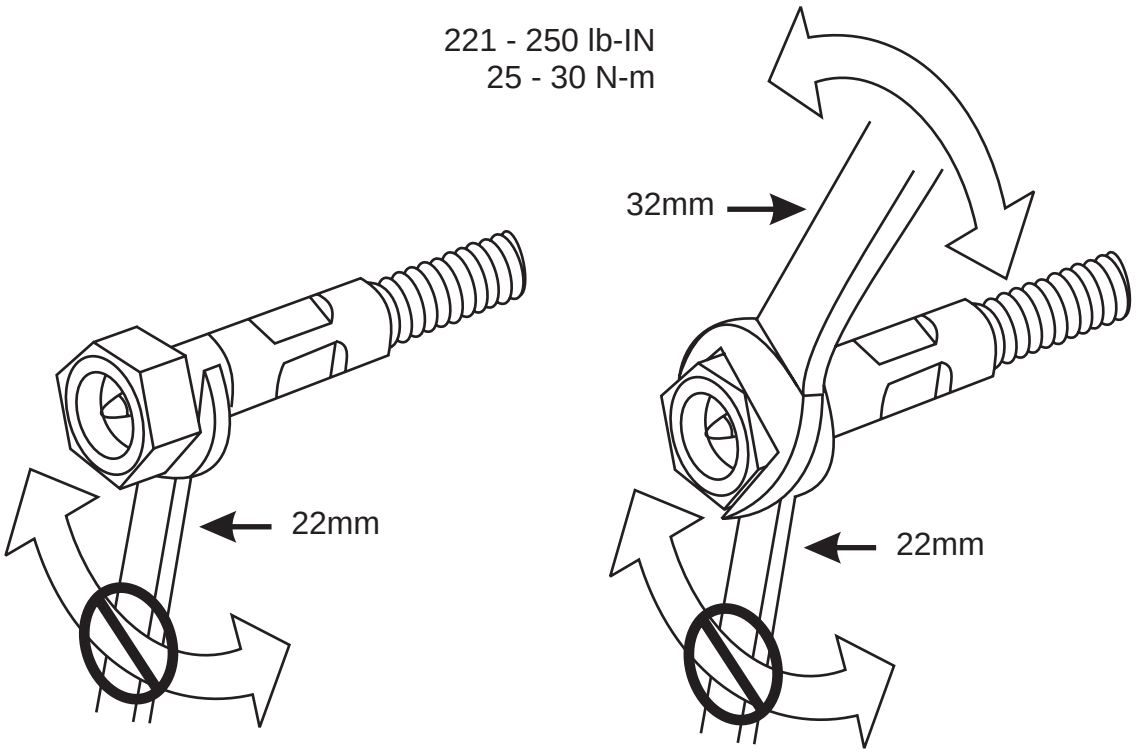
The radio cabinet is provided with six RF antenna jumper cables, terminated on both ends with a straight DIN connector. Locate these cables in the RF antenna kit.

2 Label each cable at both ends: S1D0, S1D1, S2D0, S2D1, S3D0, S3D1.

3 Connect the RF antenna jumper cable to the applicable connector on the radio cabinets. Refer to the figure below and Step 5.



4 Torque the RF antenna jumper cable connections at the BTS 8420/AWS 8420 radio cabinet to 25 Nm (221 in-lb), using the method shown in the figure below.



Important! When connecting/disconnecting a Alcatel-Lucent RF coaxial jumper cable assembly to/from any fixed panel mounted 7-16 DIN female receptacle, it is highly recommended that the cable assembly be connected/disconnected as shown in the figure below. Please note that the mating receptacle is not shown because it is a fixed and secured interface. Wrenches for connecting/disconnecting the mating RF coaxial jumper cable's 7-16 DIN male plug, which is equipped with a rotating coupling nut, are required.