Table 7 Configurations with CDU-G 2 Uncombined TRXs per cell

Cell	Antenna	TMA No. (TMA Config. Only)	Antenna Sharing Connector (Co-siting Only)	CDU No./Connec-tor	dTRU/CXU No./Connector
1	TX/RXA	1	1	1/TX/RX1	1/RX1
	TX/RXB	2	2	1/TX/RX2	1/RX2
2	TX/RXA	3	3	2/TX/RX1	3/RX2
	TX/RXB	4	4	2/TX/RX2	3/RX1
3	TX/RXA	5	5	3/TX/RX1	5/RX2
	TX/RXB	6	6	3/TX/RX2	5/RX1

Configuration 1x4 CDU-G without Hybrid Combiner

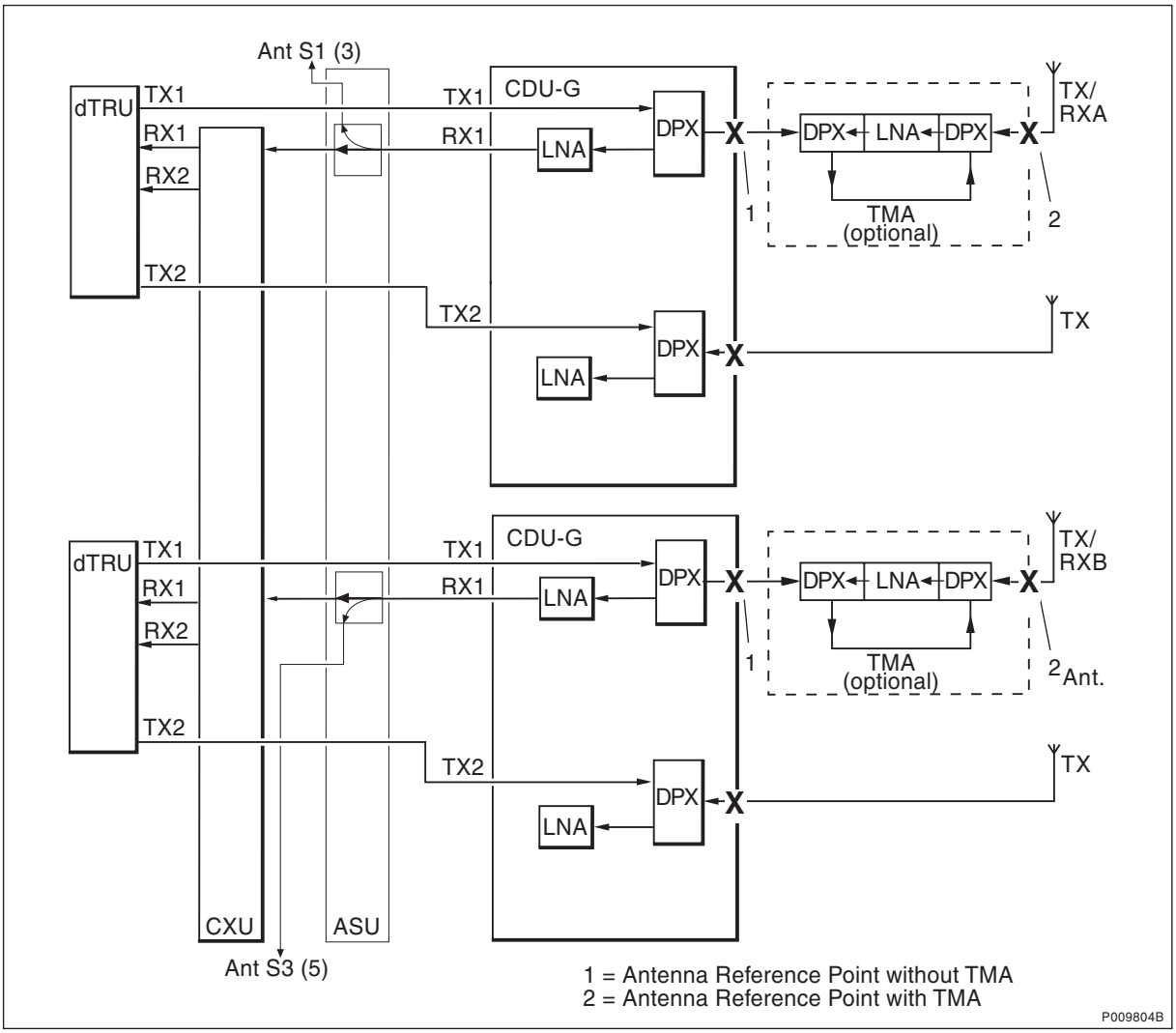

Figure 12 1x4 CDU-G Uncombined

In the figure above, Ant S1 and Ant S3 represent the antenna sharing signal which goes to the next cabinet. For connector numbers, *see Table 8 on page 23.*

Characteristics

Number of CDUs	2
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900
	GSM 1800

Characteristics

	GSM 1900
Max. number of TRXs	4
Number of feeders	4
Number of antennas	4
Antenna configuration	TX/RX + TX + TX/RX + TX
TMA configuration (optional)	ddTMA + ddTMA

Note: The ASU is optional equipment.

Table 8 1 x 4 Configurations with CDU-G, 4 Uncombined TRXs per Cell

Cell	Antenna	TMA No. (TMA Config. Only)	Antenna Sharing Connector (Co-siting Only)	CDU No./Connec-tor	dTRU/CXU No./Connec-tor
1	TX/RXA	1	1	1/TX/RX1	1/RX1, 3/RX1
	TX/RXB	3	3	2/TX/RX1	1/RX2, 3/RX2

Configuration 1x6 CDU-G without Hybrid Combiner

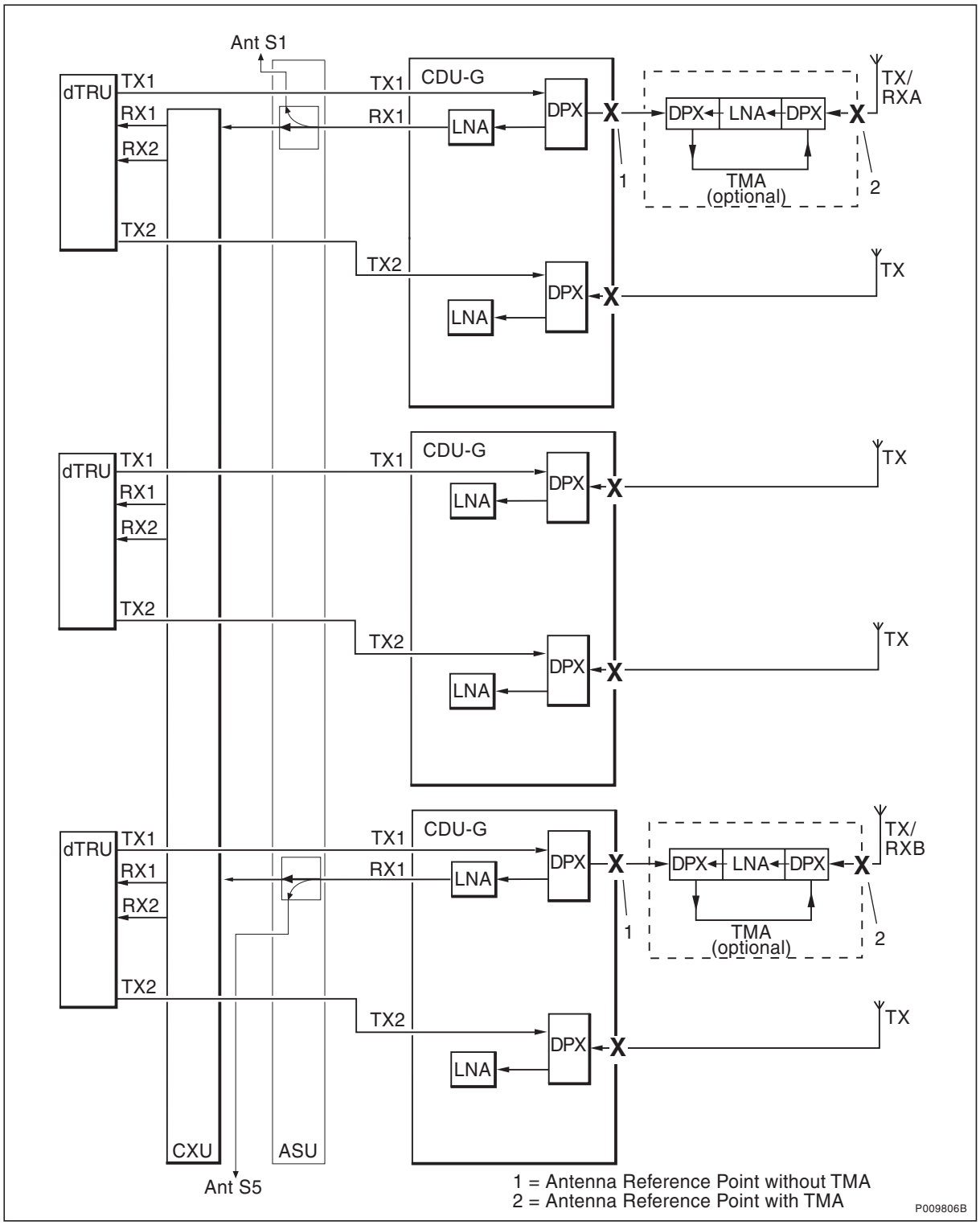

Figure 13 1x6 CDU-G Uncombined

In the figure above, Ant S1 and Ant S2 represent the antenna sharing signal which goes to the next cabinet. For connector numbers, *see Table 9 on page 26*

Characteristics

Number of CDUs	3
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900
	GSM 1800
	GSM 1900
Max. number of TRXs	6
Number of feeders	6
Number of antennas	6
Antenna configuration	TX/RX + TX + TX + TX + TX/RX + TX
TMA configuration (optional)	ddTMA + ddTMA

Note: The ASU is optional equipment.

Table 9 Configurations with CDU-G and 6 Uncombined TRXs per Cell

Cell	Antenna	TMA No. (TMA Config. Only)	Antenna Sharing Connector (Co-siting Only)	CDU No./Connector	dTRU/CXU No./Connector
1	TX/RXA	1	1	1/TX/RX1	1/RX1, 3/RX1, 5/RX1
	TX/RXB	5	5	3/TX/RX1	1/RX2, 3/RX2, 5/RX2

Configuration 2x3 CDU-G

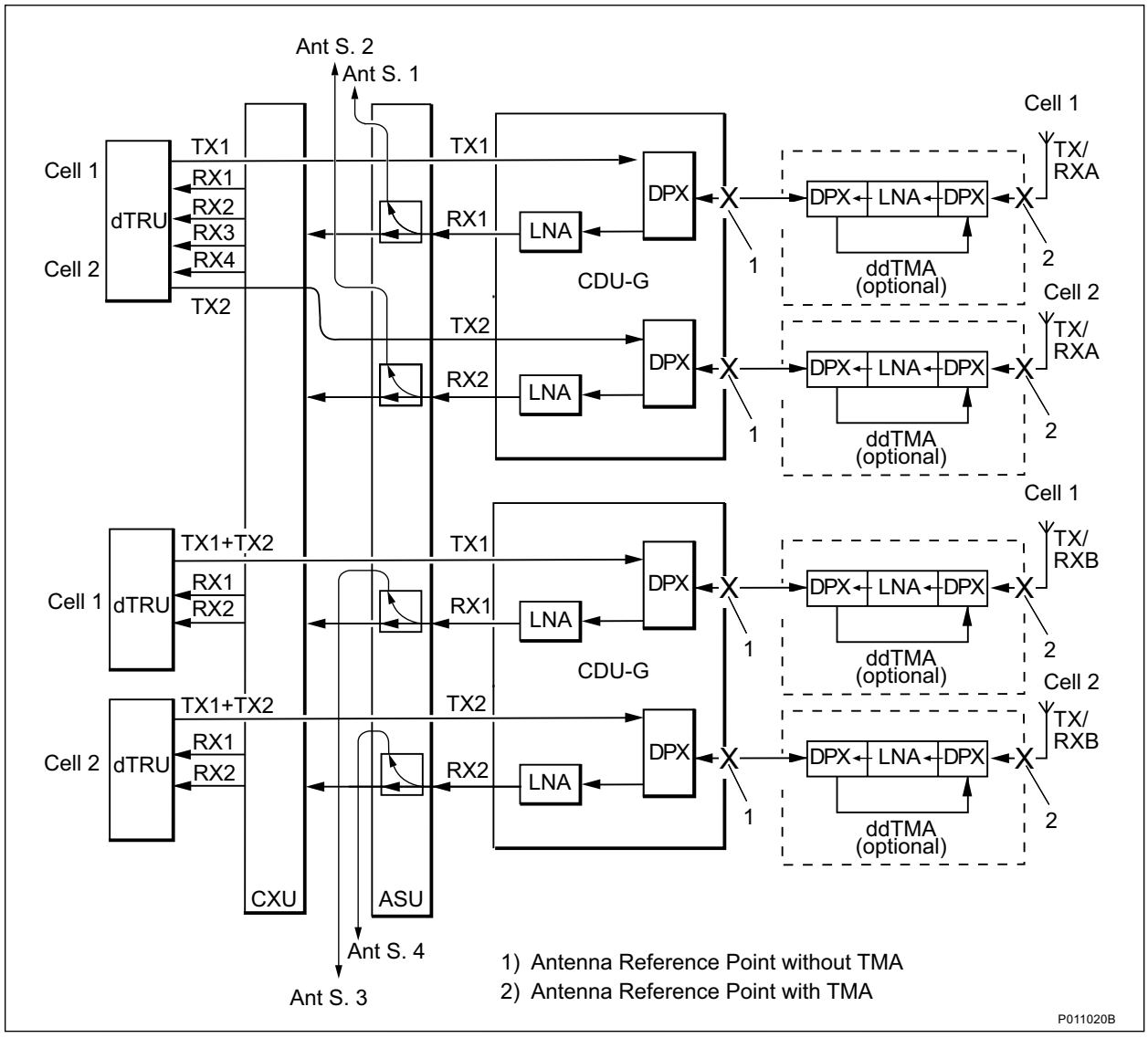

Figure 14 2 x 3 CDU G

In the figure above, Ant S1 — S4 represent the antenna sharing signal which goes to the next cabinet. For connector numbers, see the table below.

Characteristics

Number of CDUs	2
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900

Characteristics

	GSM 1800
	GSM 1900
Max. number of TRXs	6
Number of feeders	4
Number of antennas	4
Antenna configuration	TX/RXA + TX/RXB + TX/RXA
TMA configuration (optional)	ddTMA + ddTMA + ddTMA + ddTMA

Note: The ASU is optional equipment.

Table 10 2x3 CDU-G Configuration

Cell	An-tenna	TMA No (TMA con-figurations only)	Antenna Sharing Connector (Co-siting Only)	CDU No./Conn.	dTRU
1	TX/RX A	1	1	1/TXRX1	1/RX1, 3/RX1
	TX/RX B	3	2	2/TX/RX1	1/RX2, 3/RX2
2	TX/RX A	2	3	1/TX/RX2	1/RX4, 4/RX2
	TX/RX B	4	4	2/TX/RX2	1/RX3, 4/RX1

Configuration 1x4 CDU-G with Hybrid Combiner

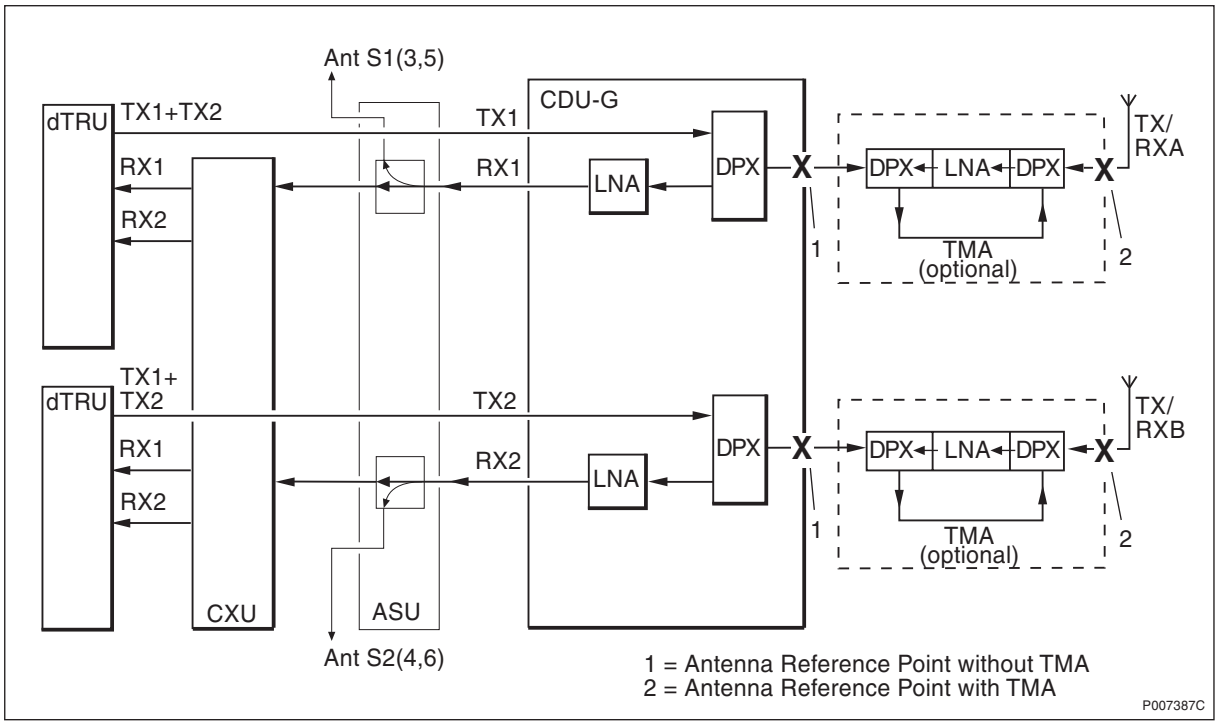

Figure 15 1x4 CDU-G Combined

In the figure above, Ant S1 and Ant S2 represent the antenna sharing signal which goes to the next cabinet. For connector numbers, *see Table 11 on page 30.*

Characteristics

Number of CDUs	1
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900
	GSM 1800
	GSM 1900
Max. number of TRXs	4
Number of feeders	2
Number of antennas	2
Antenna configuration	TX/RX + TX/RX
TMA configuration (optional)	ddTMA + ddTMA

Note: The ASU is optional equipment.

Table 11 Configurations with CDU-G and 4 Combined TRXs per Cell

Cell	Antenna	TMA No. (TMA Config. Only)	Antenna Sharing Connector (Co-siting Only)	CDU No./Connector	CXU/dTRU No./Connector
1	TX/RXA	1	1	1/TX/RX1	1/RX1, 2/RX1
	TX/RXB	2	2	1/TX/RX2	1/RX2, 2/RX2
2	TX/RXA	3	3	2/TX/RX1	3/RX2, 4/RX2
	TX/RXB	4	4	2/TX/RX2	3/RX1, 4/RX1
3	TX/RXA	5	5	3/TX/RX1	5/RX2, 6/RX2
	TX/RXB	6	6	3/TX/RX2	5/RX1, 6/RX1

Configuration 2x6 CDU-G with Hybrid Combiner

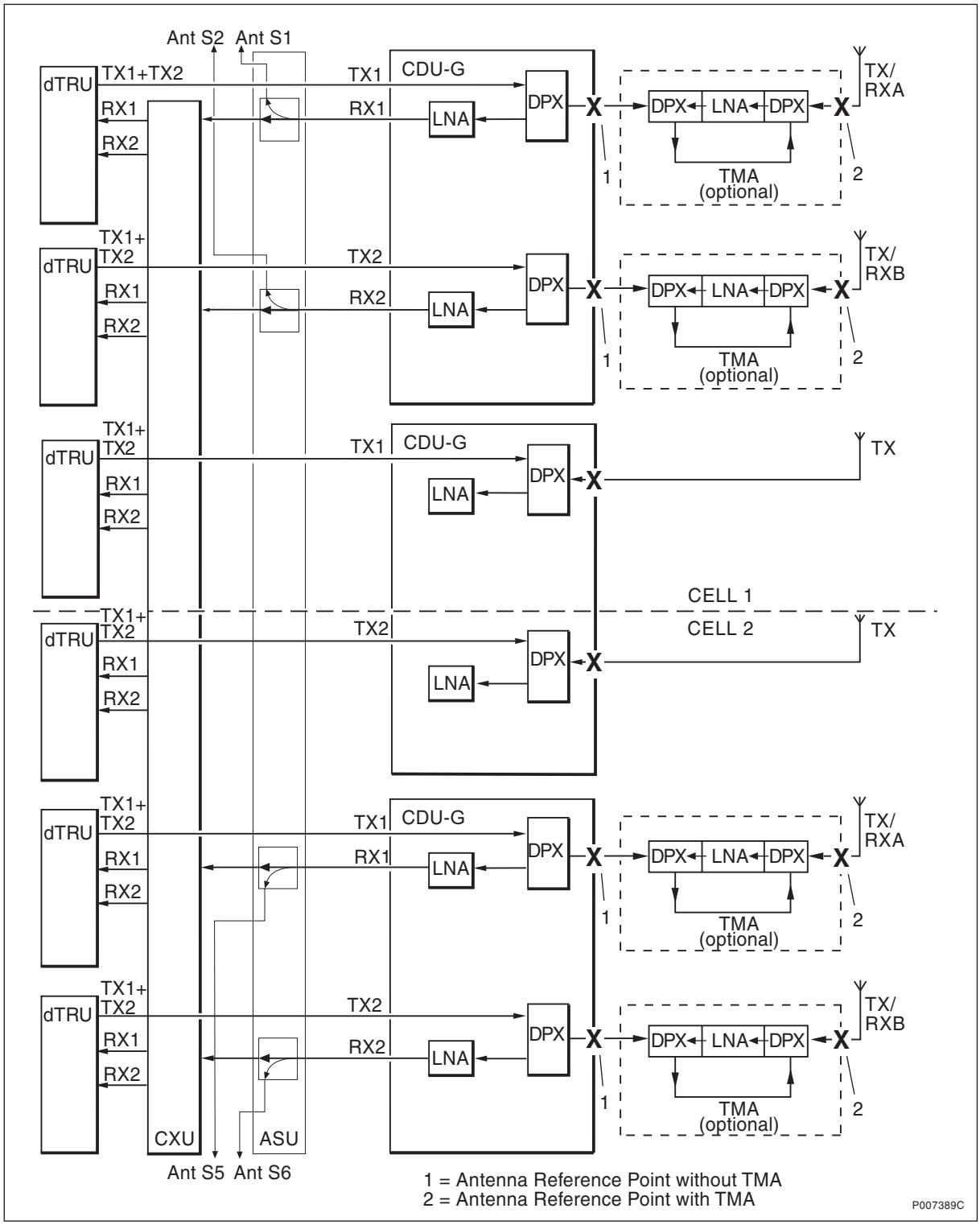

Figure 16 2x6 CDU-G Combined

In the figure above, Ant S1, Ant S2 and so on represent the antenna sharing signal which goes to the next cabinet. For connector numbers, *see Table 12 on page 32.*

Characteristics

Number of CDUs	2(1)
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900
	GSM 1800
	GSM 1900
Max. number of TRXs	6
Number of feeders	3
Number of antennas	3
Antenna configuration	TX/RX + TX/RX + TX
TMA configuration (optional)	ddTMA + ddTMA

Note: The ASU is optional equipment.

Table 12 2 x 6 Configurations with CDU-G

Cell	Antenna	TMA No. (TMA Config. Only)	Antenna Sharing Connector (Co-siting Only)	CDU No./Connec-tor	CXU/dTRU No./Connec-tor
1	TX/RXA	1	1	1/TX/RX1	1/RX1, 2/RX1, 3/RX1
	TX/RXB	2	2	1/TX/RX2	1/RX2, 2/RX2, 3/RX2
2	TX/RXA	5	5	3/TX/RX1	4/RX1, 5/RX2, 6/RX2
	TX/RXB	6	6	3/TX/RX2	4/RX2, 5/RX1, 6/RX1

Configuration 1x8 CDU-G with Hybrid Combiner

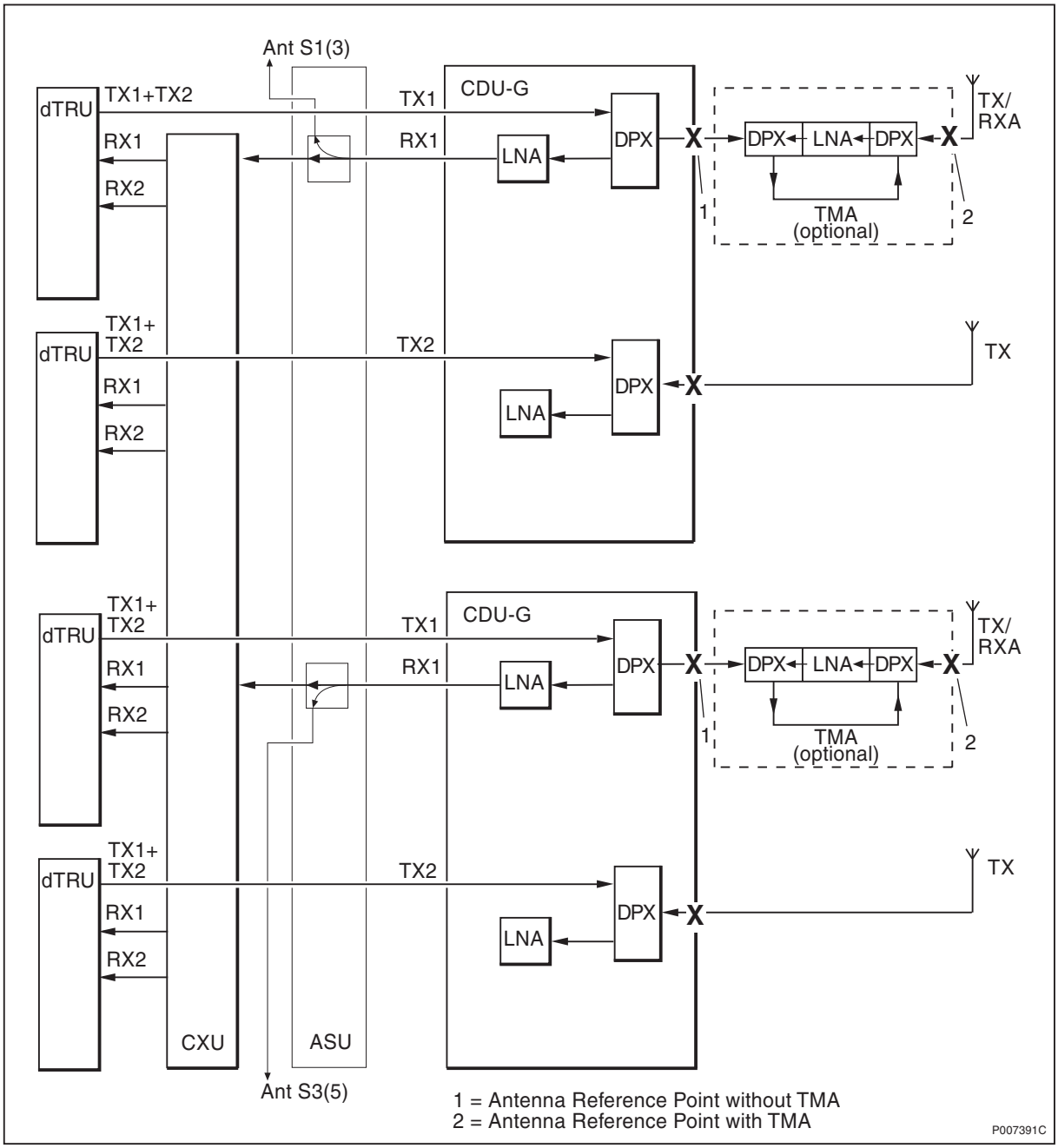

Figure 17 1x8 CDU-G with Hybrid Combiner

Characteristics

Number of CDUs	2
Frequency band	GSM 800

Characteristics

	P-GSM 900
	E-GSM 900
	GSM 1800
	GSM 1900
Max. number of TRXs	8
Number of feeders	4
Number of antennas	4
Antenna configuration	TX/RX + TX + TX/RX + TX
TMA configuration (optional)	ddTMA + ddTMA

Note: The ASU is optional equipment.

Table 13 1 x 8 Configurations with CDU-G with HCU and 8 TRXs per Cell

Cell	Antenna	TMA No. (TMA Config. Only)	Antenna Sharing Connector (Co-siting Only)	CDU No./Connec-tor	CXU/dTRU No./Connec-tor
1	TX/RXA	1	1	1/TX/RX1	1..4/RX1
	TX/RXB	3	3	2/TX/RX1	1..4/RX2
Alt.1	TX/RXA	3	3	2/TX/RX1	3/RX2, 4/RX2 5/RX1, 6/RX1
	TX/RXB	5	5	3/TX/RX1	3/RX1, 4/RX1 5/RX2, 6/RX2

Configuration 1x8 CDU-G with HCU

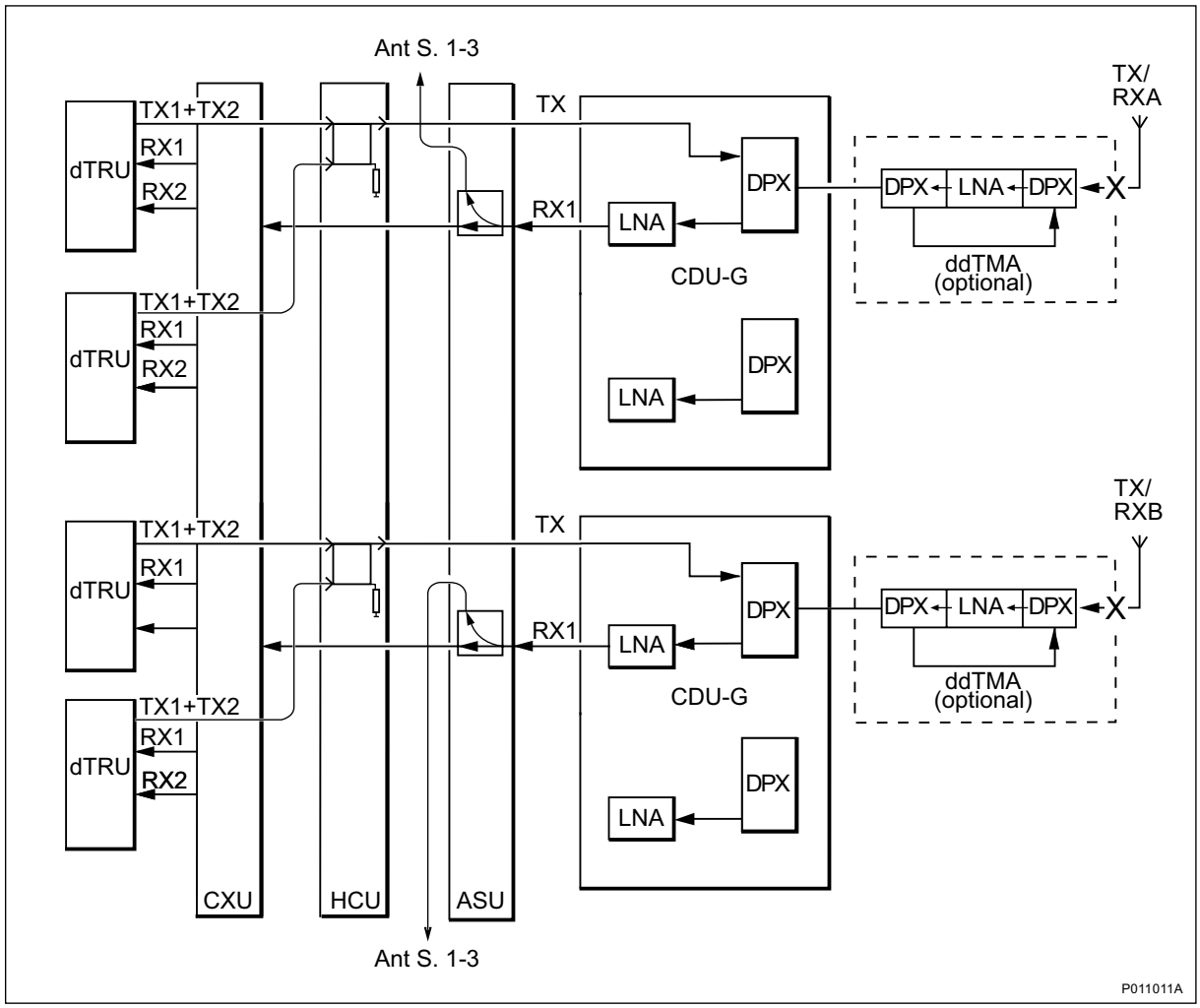

Figure 18 1x8 CDU-G with HCU

In the figure above, Ant S1 and Ant S3 represent the antenna sharing signal which goes to the next cabinet. For connector numbers, *see Table 15 on page 38.*

Characteristics

Number of CDUs	2
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900
	GSM 1800

Characteristics

	GSM 1900
Max. number of TRXs	8
Number of feeders	4
Number of antennas	4
Antenna configuration	TX/RX + TX + TX/RX + TX
TMA configuration (optional)	ddTMA + ddTMA

Note: The ASU is optional equipment.

Table 14 1 x 8 Configurations with CDU-G with HCU

Cell	Antenna	TMA No. (TMA Config. Only)	Antenna Sharing Connector (Co-siting Only)	CDU No./Connec-tor	CXU/dTRU No./Connec-tor
1	TX/RXA	1	1	1/TX/RX1	1..4/RX1
	TX/RXB	3	3	2/TX/RX1	1..4/RX2
Alt.1	TX/RXA	3	3	2/TX/RX1	3..4/RX2, 5..6/RX1
	TX/RXB	5	5	3/TX/RX1	3..4/RX1, 5..6/RX2

1x8 CDU-G with HCU Shared Between two Cabinets

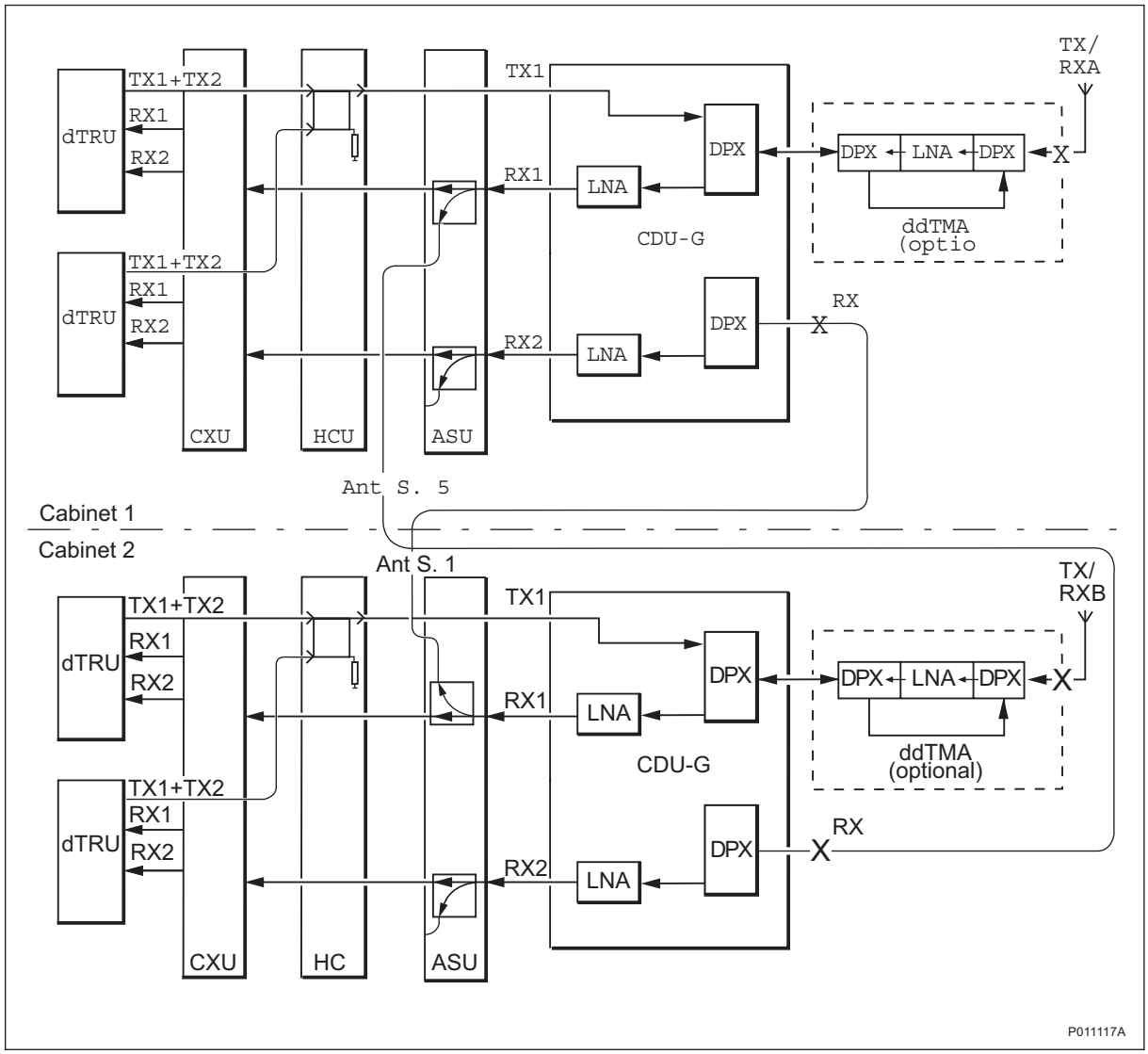

Figure 19 1x8 CDU with HCU (Mid-sector)

Characteristics

Number of CDUs	2
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900
	GSM 1800
	GSM 1900

Characteristics

Max. number of TRXs	8 (4 in each cabinet)
Number of feeders	2 (plus co-siting cable)
Number of antennas	2
Antenna configuration	TX/RX + RX + TX/RX + RX
TMA configuration (optional)	ddTMA + ddTMA

Table 15 1 x 8 CDU-G with HCU (mid-sector)

Cell	Antenna	TMA No. (TMA Config. Only)	Antenna Sharing Connector	CDU No./Connec-tor	CXU/dTRU No./Connector
2 cab. 1	TX/RXA	5	—	3/TX/RX1	5/RX2, 6/RX2
	RXB(1)	—	—	3/TX/RX2	5/RX1, 6/RX1
2 cab. 2	TX/RXB	1	—	1/TX/RX1	1/RX1, 2/RX1
	RXA(1)	—	—	1/TX/RX2	1/RX2, 2/RX2

(1) Via co-siting cable

Configuration 1x12 CDU-G with HCU

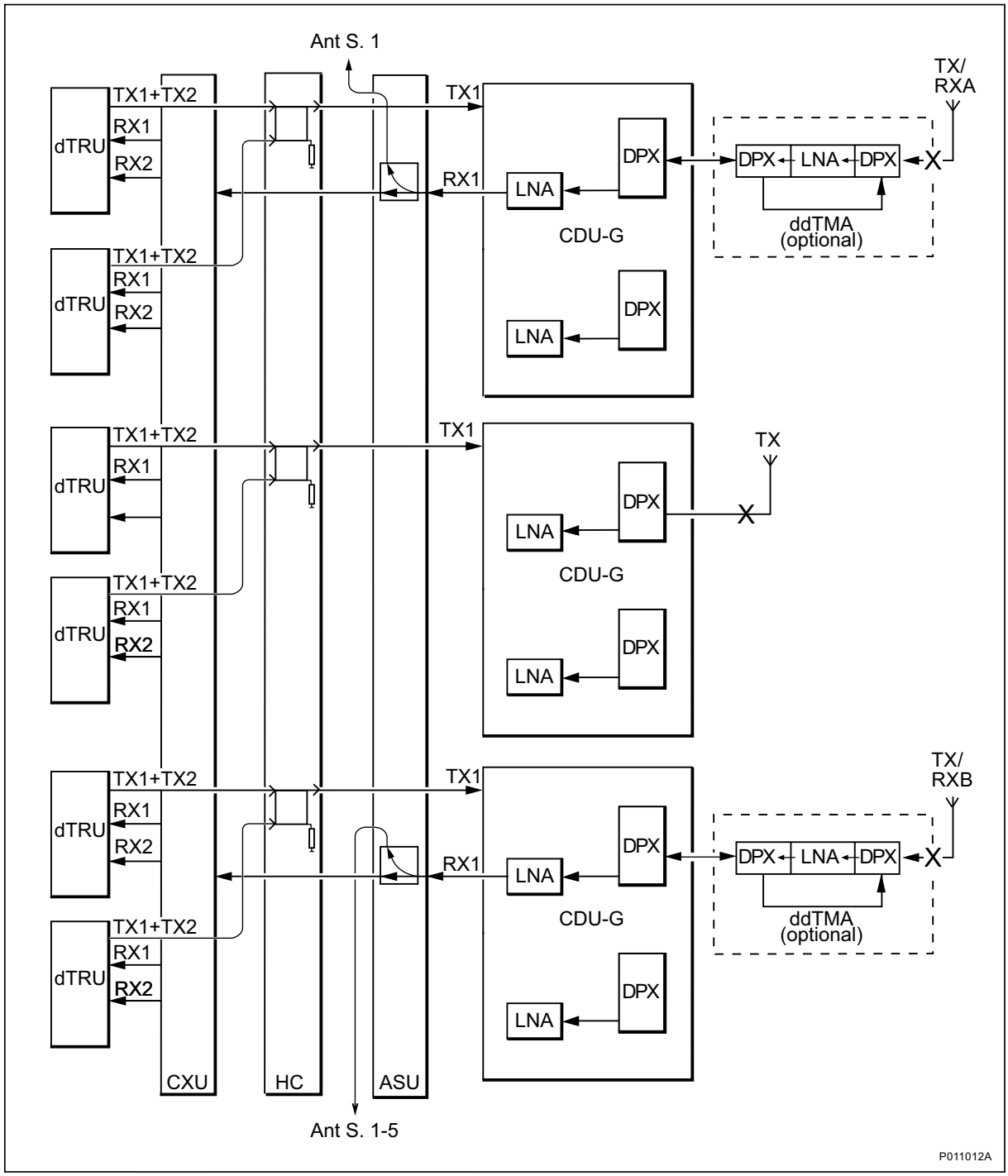

Figure 20 1x12 CDU-G with HCU

In the figure above, Ant S1 and Ant S5 represent the antenna sharing signal which goes to the next cabinet. For connector numbers, *see Table 16 on page 40*.

Characteristics

Number of CDUs	3
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900
	GSM 1800
	GSM 1900
Max. number of TRXs	12
Number of feeders	6
Number of antennas	6
Antenna configuration	2 x TX/RX + 4 x TX
TMA configuration (optional)	ddTMA + ddTMA

Note: The ASU is optional equipment.

Table 16 Configurations with 1 x 12 CDU-G with HCU

Antenna	**TMA** **No. (TMA Config. Only)**	**Antenna Sharing Connector** **(Co-siting Only)**	**CDU** **No./Connector**	**CXU/dTRU** **No./Connector**
TX/RXA	1	1	1/TX/RX1	1..6/RX1
TX/RXB	5	5	3/TX/RX1	1..6/RX2

6 Site Cell Configurations (SCC)

This section shows SCCs in one RBS. More RBSs can be combined to form larger configurations at a site. Possible expansions, where different RBSs are connected using TG-synchronisation, are described in *Section 7 on page 48*.

The following SCCs are supported by the RBS:

- Specified basic radio configurations
- The RBS with any number of dTRUs within the specified range inserted in the specified position order

6.1 Single Band Configurations

This section describes single band configurations for CDU-F and CDU-G.

CDU-F Single Band Configurations

Table 17 CDU-F Configurations for E-GSM or GSM 1800

No. of Cells	Max. No. of TRXs Cell:			No. of Antennas Cell:			*See:*
	1	**2**	**3**	**1**	**2**	**3**	
1	12			2			Figure 9 on page 17
	8			2			Figure 7 on page 13
	4			2			Figure 5 on page 9
2	6	6		2	2		Figure 6 on page 11
	8	4		2	2		Cell 1: Figure 7 on page 13 Cell 2: Figure 5 on page 9
	4	8		2	2		Cell 1: Figure 5 on page 9 Cell 2: Figure 7 on page 13
	4	4		2	2		Figure 5 on page 9
3	4	4	4	2	2	2	Figure 5 on page 9
	8	4		2	1(1)		Cell 1: Figure 7 on page 13 Cell 2: Figure 5 on page 9
		4	8	1(1)	2		Cell1: Figure 5 on page 9 Cell 2: Figure 7 on page 13

(1) One antenna and one co-siting cable from another RBS

CDU-G Single Band Configurations without Hybrid Combiner

Table 18 CDU-G Configurations for GSM 800, P-GSM 900, E-GSM 900, GSM 1800 or GSM 1900

No. of Cells	Max No. of TRXs Cell:			No. of Antennas Cell:			*See:*
	1	**2**	**3**	**1**	**2**	**3**	
1	6			6			Figure 13 on page 24
	4			4			Figure 12 on page 22
	2			2			Figure 11 on page 20
2	2	2		2	2		Figure 11 on page 20
	1	1		2	2		Figure 10 on page 18

Table 18 CDU-G Configurations for GSM 800, P-GSM 900, E-GSM 900, GSM 1800 or GSM 1900

No. of Cells	**Max No. of TRXs Cell:**			**No. of Antennas Cell:**			***See:***
	1	**2**	**3**	**1**	**2**	**3**	
3	2	2	2	2	2	2	Figure 11 on page 20
	1	1	2	2	2	2	Cell 1: Figure 10 on page 18 Cell 2: Figure 10 on page 18 Cell 3: Figure 11 on page 20

CDU-G Single Band Configuration with Hybrid Combiner

This section describes CDU-G single band configurations using the hybrid combiner in the dTRU.

Table 19 CDU-G Configurations for GSM 800, P-GSM 900, E-GSM 900, GSM 1800 or GSM 1900

No. of Cells	**Max No. of TRX Cell:**			**No. of Antennas Cell:**			***See:***
	1	**2**	**3**	**1**	**2**	**3**	
1	12			6			Figure 20 on page 39
	8			4			Figure 18 on page 35
	4			2			Figure 15 on page 29
2	6	6		3	3		Figure 16 on page 31
	8	4		4	2		Cell 1: Figure 18 on page 35 Cell 2: Figure 15 on page 29
	4	8		2	4		Cell 1: Figure 15 on page 29 Cell 2: Figure 18 on page 35
	4	4		2	2		Figure 15 on page 29
3	4	4	4	2	2	2	Figure 15 on page 29

Table 20 3x8 CDU-G Configurations, two Cabinets

No. of Cells	Max No. of TRX/Cell			No. of Ant./Cell			Com-ment
	1	2	3	1	2	3	
1	12H			3			
	8H			2			
2	8H	4H		2	1(1)		1st RBS of 3x8
	4H	8H		1(1)	2		2nd RBS of 3x8

(1) One antenna and one co-siting cable from another RBS

CDU-G with a Mix Hybrid Combiner and Uncombined

This section describes CDU-G mixed configurations, where the hybrid combiner in the dTRU is used in the combined sections.

Table 21 CDU-G configurations for GSM 800, P-GSM 900, E-GSM 900, GSM 1800 or GSM 1900

No. of Cells	Max No. of TRXs Cell:			No. of Antennas Cell:			*See:*
	1	2	3	1	2	3	
2	8c(1)	2u(2)		4	2		Cell 1: Figure 18 on page 35 Cell 2: Figure 11 on page 20
	8H	2u		2	2		Cell 1:Figure 18 on page 35 Cell 2: Figure 11 on page 20
	2u	8H		2	2		Cell 1: Figure 11 on page 20 Cell 2: Figure 18 on page 35
	8H	4c		2	2		Cell 1: Figure 18 on page 35 Cell 2: Figure 15 on page 29
	4c	8H		2	2		Cell 1: Figure 15 on page 29 Cell 2: Figure 18 on page 35
	2u	8c		2	4		Cell 1: Figure 11 on page 20 Cell 2: Figure 18 on page 35
	2u	4c		2	2		Cell 1: Figure 11 on page 20 Cell 2: Figure 15 on page 29

Table 21 CDU-G configurations for GSM 800, P-GSM 900, E-GSM 900, GSM 1800 or GSM 1900

No. of Cells	Max No. of TRXs Cell:			No. of Antennas Cell:			*See:*
	1	**2**	**3**	**1**	**2**	**3**	
3	4c	2u		2	2		Cell 1: Figure 15 on page 29 Cell 2: Figure 11 on page 20
	4u	4c		4	2		Cell 1: Figure 12 on page 22 Cell 2: Figure 15 on page 29
	1u+2c	1u+2c		2	2		Cell 1: Figure 14 on page 27 Cell 2: Figure 12 on page 22
	2u	2u	4c	2	2	4	Cell 1 and 2: Figure 11 on page 20 Cell 3: Figure 15 on page 29
	2u	4c	2u	2	4	2	Cell 1 and 3: Figure 11 on page 20 Cell 2: Figure 15 on page 29
	2u	4c	4c	2	4	4	Cell 1: Figure 11 on page 20 Cell 2 and 3: Figure 15 on page 29
	4c	2u	2u	4	2	2	Cell 1: Figure 15 on page 29 Cell 2 and 3: Figure 11 on page 20
	4c	2u	4c	4	2	4	Cell and 3: Figure 15 on page 29 Cell 2: Figure 11 on page 20
	4c	4c	2u	4	4	2	Cell 1 and 2: Figure 15 on page 29 Cell 3: Figure 11 on page 20
	1u+2c	1u+2c	2u	2	2	2	Cell 1: Figure 14 on page 27 Cell 3: Figure 11 on page 20
	1u+2c	1u+2c	4c	2	2	2	Cell 1: Figure 14 on page 27 Cell 3:Figure 11 on page 20
	1u	1u	4c	2	2	2	Cell 1 and 2: Figure 10 on page 18 Cell 3: Figure 15 on page 29

(1) c = combined

(2) u = uncombined

6.2 Dual Band Configurations

The dual band configuration tables in this section have one frequency (for example 900 MHz) configuration on the left, and another frequency (for example 1800 MHz) configuration on the right. Frequency bands can be located on either the left or right side of the cabinet. The only limitation is that, in the case of three cells, the centre cell (cell 2) must have the same frequency band as one of the adjacent cells.

CDU-F Dual Band Configurations for GSM 900 and GSM 1800

Table 22 Dual Band Configurations with CDU-F

No. of Cells	Max. No. of TRXs Cell:			No. of Antennas Cell:			*See:*
	1	**2**	**3**	**1**	**2**	**3**	
2	8	4		2	2		Cell 1: Figure 7 on page 13 Cell 2: Figure 5 on page 9
	4	8		2	2		Cell 1: Figure 5 on page 9 Cell 2: Figure 7 on page 13
	4	—(1)	4	2		2	Figure 5 on page 9
3(2)	4	4	4	2	2	2	Figure 5 on page 9
	4	4	4	2	2	2	Figure 5 on page 9

(1) The middle position in the cabinet must be left empty.
(2) TMA can be selected per frequency band. If sector 2 has TMA, then the other sector with the same frequency must also have TMA. If sector 2 does not have TMA, then the other sector with the same frequency band cannot have TMA.

The following frequency band combination is possible: E-GSM/GSM 1800.

CDU-G Dual Band Configurations

In the configurations described in the following table, the hybrid combiner in the dTRU is used.

Table 23 Dual Band Configurations, CDU-G with Hybrid Combiner

No. of Cells	Max. No. of TRXs Cell:			No. of Antennas Cell:			*See:*
	1	**2**	**3**	**1**	**2**	**3**	
2	8	4		4	2		Cell 1: Figure 18 on page 35 Cell 2: Figure 15 on page 29
	4	8		2	4		Cell 1: Figure 15 on page 29 Cell 2: Figure 18 on page 35
	4	—(1)	4	2		2	Figure 15 on page 29

Table 23 Dual Band Configurations, CDU-G with Hybrid Combiner

No. of Cells	Max. No. of TRXs Cell:			No. of Antennas Cell:			*See:*
	1	**2**	**3**	**1**	**2**	**3**	
3(2)	4	4	4	2	2	2	Figure 15 on page 29
	4	4	4	2	2	2	Figure 15 on page 29

(1) The middle position in the cabinet must be left empty.
(2) TMA can be selected per frequency band. If sector 2 has TMA, then the other sector with the same frequency must also have TMA. If sector 2 does not have TMA, then the other sector with the same frequency band cannot have TMA.

The following frequency band combinations are possible: P-GSM 900/GSM 1800, E-GSM 900/GSM 1800, GSM 800/GSM 1800, and GSM 800/GSM 1900.

Table 24 Dual Band Configurations, CDU-G without Hybrid Combiner

No. of Cells	Max. No. of TRXs Cell:			No. of Antennas Cell:			*See:*
	1	**2**	**3**	**1**	**2**	**3**	
2	4(1)	2		4	2		Cell 1: Figure 12 on page 22 Cell 2: Figure 11 on page 20
	2	—(2)	2	2		2	Figure 11 on page 20
3(3)	2	2	2	2	2	2	Figure 11 on page 20
	2	2	2	2	2	2	Figure 11 on page 20

(1) The sector with four TRXs should always be placed to the left.
(2) The middle position in the cabinet must be left empty.
(3) TMA can be selected per frequency band. If sector 2 has TMA, then the other sector with the same frequency must also have TMA. If sector 2 does not have TMA, then the other sector with the same frequency band cannot have TMA.

The following frequency band combinations are possible: P-GSM 900/GSM 1800, E-GSM 900/GSM 1800, GSM 800/GSM 1800, and GSM 800/GSM 1900.

Table 25 CDU-G Configurations for GSM 800, P-GSM 900, E-GSM 900, GSM 1800 or GSM 1900

No. of Cells	Max. No. of TRXs Cell:			No. of Antennas Cell:			*See:*
	1	**2**	**3**	**1**	**2**	**3**	
2	8c[1]	2u[2]		4	2		Cell 1: Figure 19 on page 37 Cell 2: Figure 11 on page 20
	2u	8c		2	4		Cell 1: Figure 11 on page 20 Cell 2: Figure 19 on page 37
	4c	2u		2	2		Cell 1: Figure 15 on page 29 Cell 2: Figure 11 on page 20
	2u	4c		2	2		Cell 1: Figure 11 on page 20 Cell 2: Figure 15 on page 29
3[3]	2u	2u	4c	2	2	2	Cell 1 and 2: Figure 11 on page 20 Cell 3: Figure 15 on page 29
	4c	2u	2u	2	2	2	Cell 1: Figure 15 on page 29 Cell 2 and 3: Figure 11 on page 20
	4c	4c	2u	2	2	2	Cell 1 and 2: Figure 15 on page 29 Cell 3: Figure 11 on page 20
	2u	4c	4c	2	2	2	Cell 1: Figure 11 on page 20 Cell 2 and 3: Figure 15 on page 29

(1) c = combined

(2) u = uncombined

(3) TMA can be selected per frequency band. If sector 2 has TMA, then the other sector with the same frequency must also have TMA. If sector 2 does not have TMA, then the other sector with the same frequency band cannot have TMA.

The following frequency band combinations are possible: P-GSM 900/GSM 1800, E-GSM 900/GSM 1800, GSM 800/GSM 1800, and GSM 800/GSM 1900.

6.3 SW Power Boost Configurations with CDU-G

This section does not include any additional site cell configurations. The section specifies which configurations support SW Power Boost (SPB).

A minimum of two TRXs is required in an antenna system to use SW Power Boost. Separate TX antennas must be used for the two transmitters in an SPB configuration.

SPB with CDU-G Configurations without Hybrid Combiner

SW Power Boost is supported in all of the SCCs with CDU-G, specified in *Section 6 Site Cell Configurations (SCC) on page 40,* which fulfill the following conditions:

- The configurations do not use hybrid combiner.
- The configurations have TRX connected to different antennas in the same antenna system.

SPB with CDU-G Configurations with Hybrid Combiner

SW Power Boost is supported in all of the SCCs with CDU-G, specified in *Section 6 Site Cell Configurations (SCC) on page 40,* which fulfil the following conditions:

- The configurations use hybrid combiner.
- The configurations have TRX connected to different antennas in the same antenna system.

One possible application using SPB together with hybrid combiner is creating overlaid and underlaid cells during cell planning, as described below:

1 One underlaid cell consists of the second TRX in the first dTRU and the first TRX in the second dTRU. SPB is used in this cell.

2 One overlaid cell consists of the two other TRXs. SPB is not used in this cell.

6.4 Transmitter Coherent Combining (TCC) Configurations with CDU-G

This section specifies which configurations support Transmitter Coherent Combining (TCC). The section does not include any additional site cell configurations.

A minimum of two TRXs is required in order to support TCC.

TCC with CDU-G Configurations with Hybrid Combiner

TCC is supported in all of the SCCs with CDU-G, specified in *Section 6 Site Cell Configurations (SCC) on page 40,* which fulfill the following conditions:

- The configurations use hybrid combiner.
- The configurations have two TRXs within the same dTRU.

7 Co-Siting with RBS 200 or RBS 2000 Macro Cabinets

This section shows expansions where RBSs, forming an original SCC, are co-sited and use TG-synchronisation to form one new resulting SCC. Antennas are not shared.

7.1 RBS 200 Expanded with 12-TRX Cabinet

Co-siting with RBS 200 Using a Filter Combiner

Table 26 Expansion using Filter Combiner

Result SCC	Original Configuration					Expansion Configuration		
	Original SCC	Cabinet	Combiner	Antennas	TMA	Original SCC	Basic Configuration	Antennas
1 x 16[1]	1 x 4	RBS 200	FCOMB	(3)	No	1x12	F9d_2.12	(2)
		RBS 205	FCOMB	(3)	No		F18d_2.12	(2)
		RBS 205	FCOMB	(3)	M		F18dt_2.12	(2)
		RBS 205	FCOMB&DP2X	(2)	No		F18d_2.12	(2)
		RBS 205	FCOMB	(2)	M		F18dt_2.12	(2)
1 x 20[2]	1 x 8	RBS 200	FCOMB	(3)	No	1x12	F9d_2.12	(2)
		RBS 205	FCOMB	(3)	No		F18d_2.12	(2)
		RBS 205	FCOMB	(3)	M		F18dt_2.12	(2)
		RBS 205	FCOMB&DP2X	(2)	No		F18d_2.12	(2)
		RBS 205	FCOMB	(2)	M		F18dt_2.12	(2)
3 x 8[3]	3 x 4[4]	RBS 200	FCOMB	(3) (3) (3)	No	3x4	3 x F9d_2.4	(2) (2) (2)
		RBS 205	FCOMB	(3) (3) (3)	No		3 x F18d_2.4	(2) (2) (2)

Table 26 Expansion using Filter Combiner

Result SCC	Original Configuration					Expansion Configuration		
	Original SCC	Cabinet	Combiner	Antennas	TMA	Original SCC	Basic Configuration	Antennas
		RBS 205	FCOMB	(3) (3) (3)	M		3 x F18dt_2.4	(2) (2) (2)
		RBS 205	FCOMB&DPX	(2) (2) (2)	No		3 x F18d_2.4	(2) (2) (2)
		RBS 205	FCOMB	(2) (2) (2)	M		3 x F18dt_2.4	(2) (2) (2)

(1) 1 x 6, 1 x 8, 1 x 10, 1 x 12 and 1 x 14 can be accomplished with a partly-equipped expansion configuration.
(2) 1 x 10, 1 x 12, 1 x 14, 1 x 16 and 1 x 18 can be accomplished with a partly-equipped expansion configuration.
(3) 3 x 6 can be accomplished with a partly-equipped expansion configuration.
(4) When using TG-synchronization, only one RBS 200/RBS 205 can act as master. Therefore the 3 x 4 configuration, which contains three separate RBSs, must be rebuilt to one single RBS; that is, all three sectors of the RBS 200 must be connected to the same TMCB.

M = Mandatory

Co-siting with RBS 200 Using Hybrid Combiner

Table 27 Expansion using Hybrid Combiner

Result SCC	Original Configuration					Expansion Configuration		
	Original SCC	Cabinet	Combiner	Antennas	TMA	Original SCC	Basic Configuration	Antennas
3 x 8 (1)	3 x 4 (2)	RBS 200	HCOMB	(3) (3) (3)	No	3 x 4	3 x G9dh_2.4	(2) (2) (2)
		RBS 205	HCOMB	(3) (3) (3)	No		3 x G18dh_2.4	(2) (2) (2)
		RBS 205	HCOMB	(3) (3) (3)	M		3 x G18dht_2.4	(2) (2) (2)

Table 27 Expansion using Hybrid Combiner

Result SCC	Original Configuration					Expansion Configuration		
	Original SCC	Cabinet	Combiner	Antennas	TMA	Original SCC	Basic Configuration	Antennas
		RBS 205	HCOMB&D(2)X	(2) (2) (2)	No		3 x G18dh_2.4	(2) (2) (2)
		RBS 205	HCOMB	(2) (2) (2)	M		3 x G18dht_2.4	(2) (2) (2)

(1) 3 x 6 can be accomplished with a partly-equipped expansion configuration. 1 x 8 can be accomplished with one RBS 200/RBS 205 and a partly-equipped expansion configuration.
(2) When using TG-synchronization, only one RBS 200/RBS 205 can act as master. Therefore the 3 x 4 configuration, which contains three separate RBSs, must be rebuilt to one single RBS; that is, all three sectors of the RBS 200 must be connected to the same TMCB.

M = Mandatory

7.2 6-TRX RBS 2000 Macro Cabinets Expanded with 12-TRX Cabinet

Co-siting with Single TRU-Based RBS 2000 Using Filter Combiner

Table 28 Expansion using Filter combiner

	RBS 1			RBS 2		
Result SCC	Original SCC	Basic Configuration	Antennas	Original SCC	Basic Configuration	Antennas
1 x 18 (1)	1 x 6	D9d_2.6	(2)	1 x 12	F9de_2.12	(2)
		D18d_2.6	(2)		F18d_2.12	(2)
		D18_2.6	(2)		F18dt_2.12	(2)
1 x 24 (2)	1 x 12	D9d_2.12	(2)	1 x 12	F9de_2.12	(2)
		D18d_2.12	(2)		F18d_2.12	(2)
		D18_2.12	(2)		F18dt_2.12	(2)

(1) 1 x 8, 1 x 10, 1 x 12, 1 x 14 and 1 x 16 can be accomplished with a partly-equipped RBS 2.
(2)

Co-siting with Single TRU-Based RBS 2000 Using Hybrid Combiner

Table 29 Expansion using Hybrid Combiner

	RBS 1			RBS 2		
Result SCC	**Original SCC**	**Basic Configuration**	**Antennas**	**Original SCC**	**Basic Configuration**	**Antennas**
3 x 8 (1)	3 x 4	3 x C+ 9d_2.4	(2) (2) (2)	3 x 4	3 x G9dh_2.4	(2) (2) (2)
		3 x C+ 9d_2.4	(2) (2) (2)		3 x G9dht_2.4	(2) (2) (2)
		3 x C+ 18d_2.4	(2) (2) (2)		3 x G18dh_2.4	(2) (2) (2)
		3 x C+ 18_2.4	(2) (2) (2)		3 x G18dht_2.4	(2) (2) (2)
		3 x C+ 19d_2.4	(2) (2) (2)		3 x G19dh_2.4	(2) (2) (2)
		3 x C+ 19_2.4	(2) (2) (2)		3 x G19dht_2.4	(2) (2) (2)

(1) 3 x 6 is accomplished with a partly-equipped RBS 2.

7.3 12-TRX RBS 2000 Macro Cabinet Expanded with 12-TRX Cabinet

Co-siting with dTRU-Based RBS 2000 Macro Cabinet Using Filter Combiner

Table 30 Expansion using Filter Combiner

	RBS 1			RBS 2		
Result SCC	**Original SCC**	**Basic Configuration**	**Antennas**	**Original SCC**	**Basic Configuration**	**Antennas**
3 x 8(1)	8 + 4	F9d_2.8 + F9d_2.4	(2) (2) (-)	4 + 8	F9d_2.4 + F9d_2.8	(-) (2) (2)
		F9dt_2.4 + F9dt_2.4	(2) (2) (-)		F9dt_2.4 + F9dt_2.8	(-) (2) (2)
		F18d_2.8 + F18d_2.4	(2) (2) (-)		F18d_2.4 + F18d_2.8	(-) (2) (2)
		F18dt_2.8 + F18dt_2.4	(2) (2) (-)		F18dt_2.4 + F18dt_2.8	(-) (2) (2)
1 x 24 (2)	1 x 12	F9d_2.12	(2)	1 x 12	F9d_2.12	(2)
		F9dt_2.12	(2)		F9dt_2.12	(2)

Table 30 Expansion using Filter Combiner

	RBS 1			RBS 2		
Result SCC	**Original SCC**	**Basic Configuration**	**Anten-nas**	**Original SCC**	**Basic Configuration**	**Antennas**
		F18d_2.12	(2)		F18d_2.12	(2)
		F18d_2.12	(2)		F18dt_2.12	(2)

(1) 3 x 6 can be accomplished with a partly-equipped RBS 1 and RBS 2, although it is more easily performed with 2 x 6 in RBS 1 and 1 x 8 with three dTRUs in RBS 2. TG-synchronization is not required.
(2) 1 x 14, 1 x 16, 1 x 18, 1 x 20 and 1 x 22 are accomplished with a partly-equipped RBS 2.

Co-siting with dTRU-Based RBS 2000 Using Hybrid Combiner

Table 31 Expansion using Hybrid Combiner

	RBS 1			RBS 2		
Result SCC	**Orig-inal SCC**	**Basic Configuration**	**Anten-nas**	**Original SCC**	**Basic Configuration**	**Antennas**
3 x 8 (1)	3 x 4	3 x G9dh_2.4	(2) (2) (2)	3 x 4	3 x G9dh_2.4	(2) (2) (2)
		3 x G9dht_2.4	(2) (2) (2)		3 x G9dht_2.4	(2) (2) (2)
		3 x G18dh_2.4	(2) (2) (2)		3 x G18dh_2.4	(2) (2) (2)
		3 x G18dht_2.4	(2) (2) (2)		3 x G18dht_2.4	(2) (2) (2)
		3 x G19dh_2.4	(2) (2) (2)		3 x G19dh_2.4	(2) (2) (2)
		3 x G19dht_2.4	(2) (2) (2)		3 x G19dht_2.4	(2) (2) (2)

(1) 3 x 6 is accomplished with a partly-equipped RBS 2

Co-siting with dTRU-Based RBS 2000 without Hybrid Combiner

Table 32 Expansion using CDU-G without Hybrid Combiner

	RBS 1			RBS 2		
Result SCC	**Orig-inal SCC**	**Basic Configuration**	**Anten-nas**	**Original SCC**	**Basic Configuration**	**Antennas**
3 x 4	3 x 2	3 x G9d_2.2	(2) (2) (2)	3 x 2	3 x G9d_2.4	(2) (2) (2)
		3 x G9dt_2.2	(2) (2) (2)		3 x G9dt_2.4	(2) (2) (2)
		3 x G18d_2.2	(2) (2) (2)		3 x G18d_2.4	(2) (2) (2)

Table 32 Expansion using CDU-G without Hybrid Combiner

		3 x G18dt_2.2	(2) (2) (2)		3 x G18dt_2.4	(2) (2) (2)
		3 x G19dh_2.4	(2) (2) (2)		3 x G19dh_2.4	(2) (2) (2)
		3 x G19dht_2.4	(2) (2) (2)		3 x G19dht_2.4	(2) (2) (2)

8 Co-siting with TDMA RBS Using an ASU

The ASU is used for co-siting with a TDMA RBS, more specifically RBS 884 for 800 MHz and 1900 MHz, and RBS 882 for 800 MHz only. The unit allows a TDMA cabinet to share receiver antennas with a GSM cabinet. The ASU is installed in a dTRU based GSM cabinet.

The implementation is for 800 and 1900 MHz. The end configuration differs for different site configurations of the TDMA RBS. One-, two- and three-sector sites can be supported. In the case of two- or three-sector sites, the figures below only show one part of the RBS.

8.1 Separate TX and Two Separate RX Antennas

The original antenna configuration of the TDMA RBS is TX + RX + RX. When co-siting is configured, the antennas are moved from the TDMA RBS to the dTRU based RBS. The dTRU based RBS can be prepared for co-siting already at the factory. The RX paths to the TDMA RBS will go through the ASU.

By moving the receiver antennas to the dTRU based RBS, it is possible to benefit from minimum interference with the old equipment.

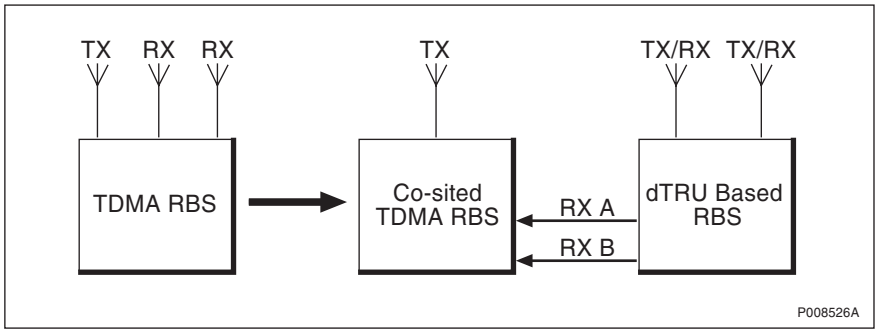

Figure 21 Separate TX and Two Separate RX antennas, no TMAs

If TMAs are used in the original configuration, they are replaced with dual-duplex TMAs (ddTMAs).

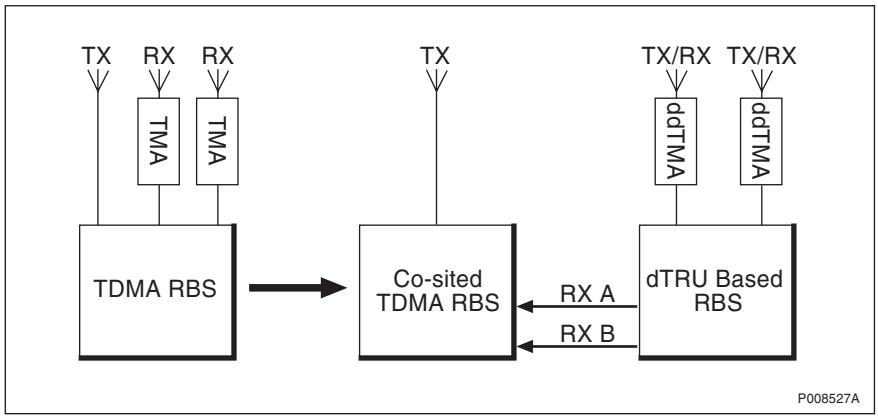

Figure 22 Separate TX and Two Separate RX Antennas, with TMAs

No new antennas are required.

8.2 One Duplex Antenna RX/TX

The TDMA RBS may be equipped with only one TX/RX antenna. The recommendation in this case is to add two antennas for the dTRU based RBS. One RX signal from the dTRU based RBS is supplied to the TDMA RBS, thus adding RX diversity to the TDMA RBS.

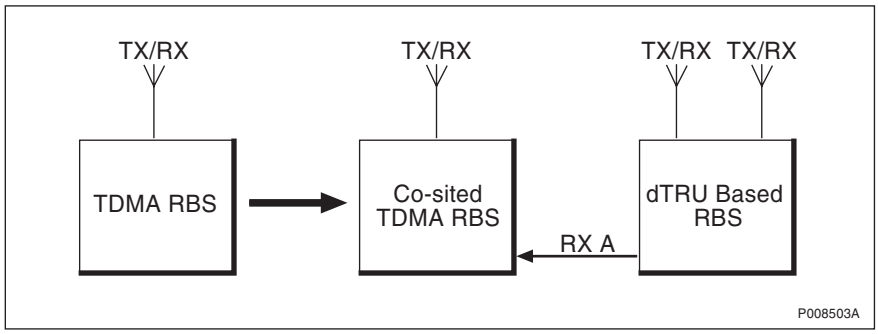

Figure 23 One Duplex Antenna RX/TX

8.3 Two Separate Duplex Antennas

If two separate duplex antennas are already in use, the recommendation is to install new antennas for the dTRU based RBS and not use co-siting at all.

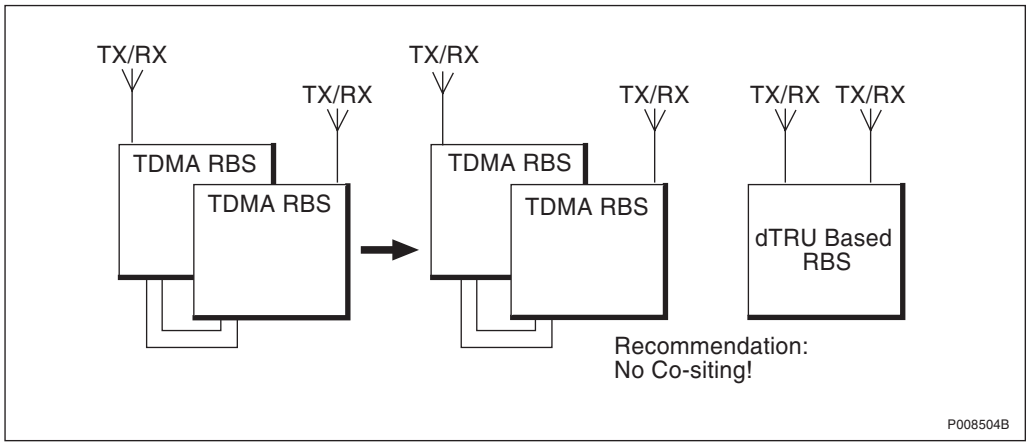

Figure 24 Two Separate Duplex Antennas

8.4 One RX and One Duplex Antenna

If the original antenna arrangement is TX/RX + RX, the recommendation differs for configurations where the duplex filter is mounted internally, without the possibility to access the TX and RX ports separately, and configurations where the RX path is accessible.

Internal Duplex Filter

If the duplex filter is internal and the RX path is not accessible, the recommendation is to add one antenna and rebuild the configuration in the same way as in the case with TX + RX + RX in *Section 8.1 Separate TX and Two Separate RX Antennas on page 54*.

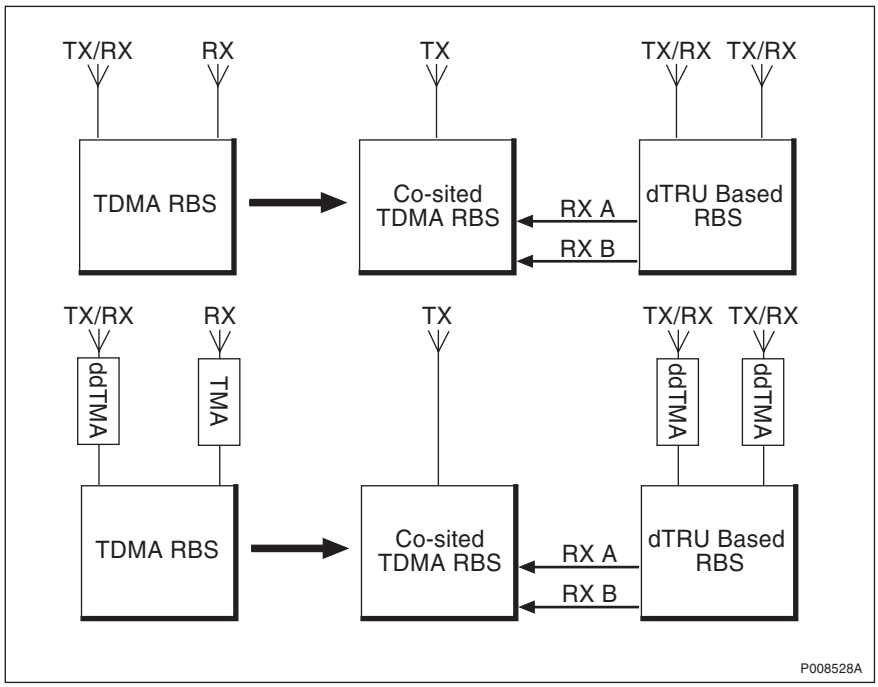

Figure 25 Internal duplex filter

A special case is where only one TX/RX and one RX port are accessible from the outside of the cabinet. In that case the solution stated below can be used. Note that the three duplex filters in series (one internal and two external) will degrade the TX performance of the co-sited RBS.

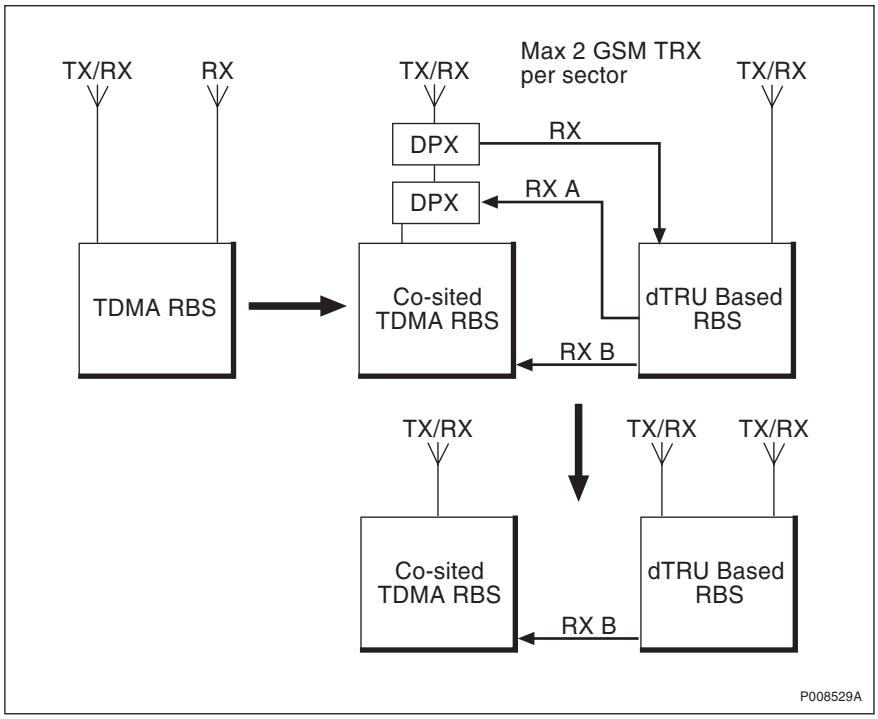

Figure 26 Internal Duplex Filter and only Two Antenna Ports Accessible

External Duplex Filter

If an external duplex filter is used, it is possible to expand the configuration in two steps. The first step does not require any new antennas, but limits the number of GSM TRXs to two (that is, one dTRU) for each sector. Support of more GSM TRXs requires additional antennas.

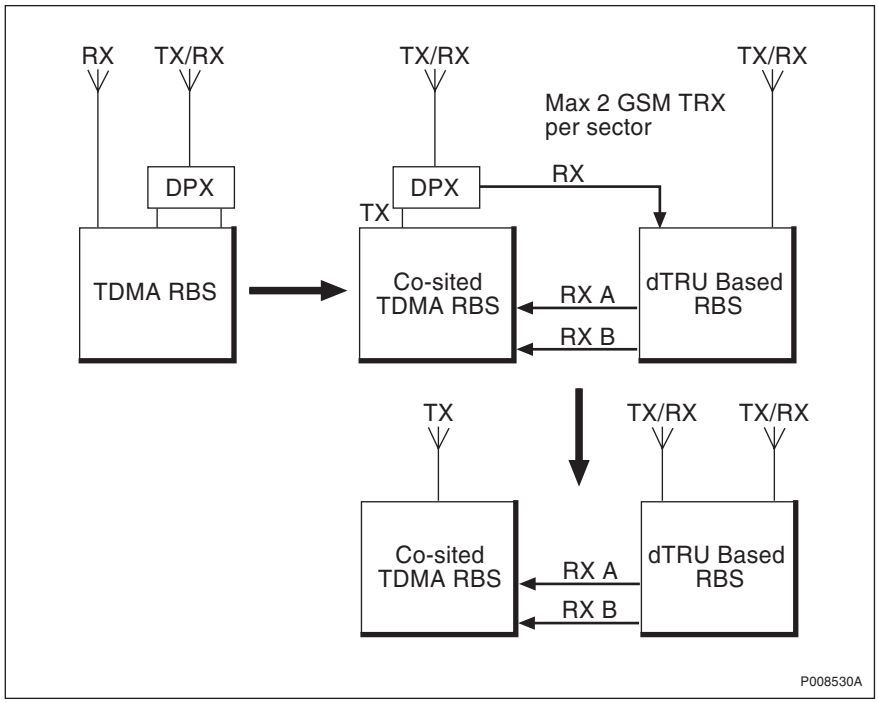

Figure 27 External Duplex Filter

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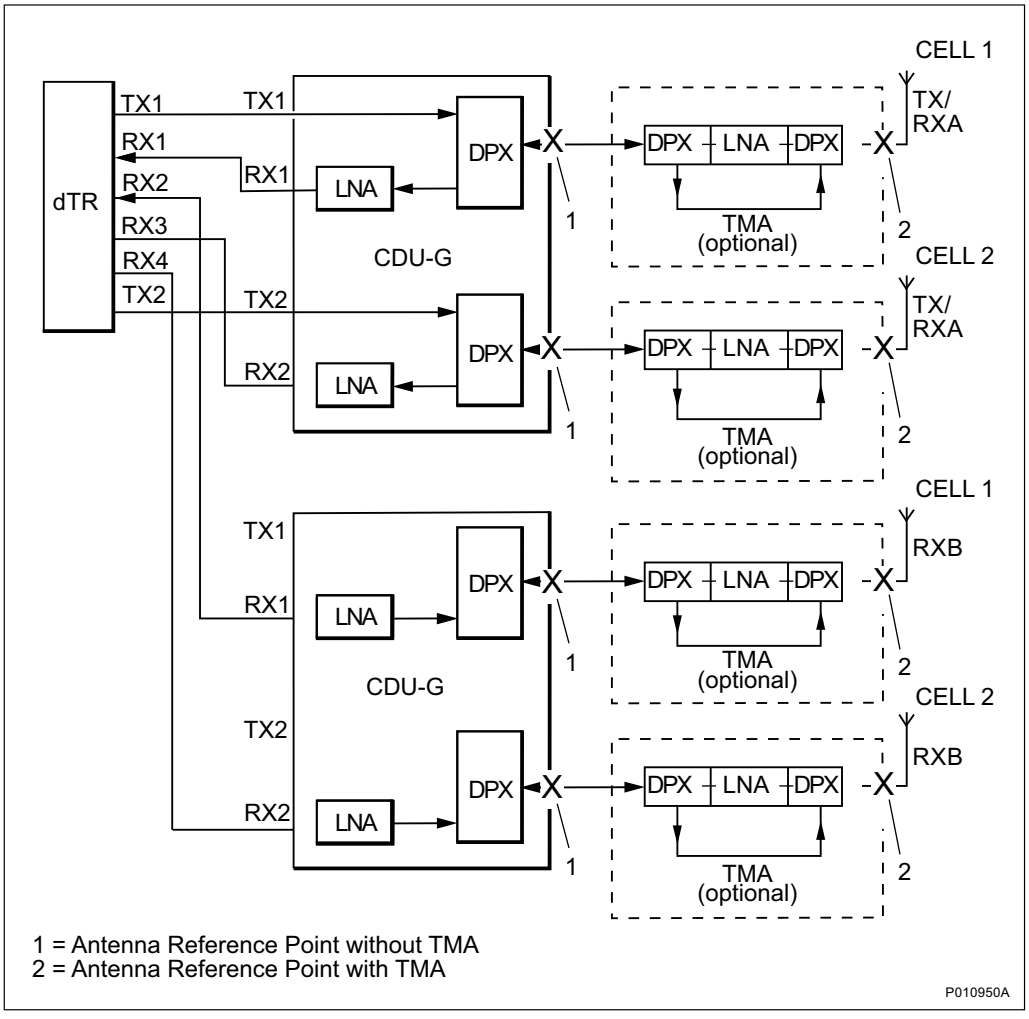
RBS 2207
Radio Configurations
Description

This document describes the radio configurations for RBS 2207.



Contents

1 Introduction

The radio configurations described are valid for RBS 2207, equipped with a maximum of three dTRUs/six TRXs per cabinet. The descriptions include basic configurations and site cell configurations.

1.1 Mobile Telephone System

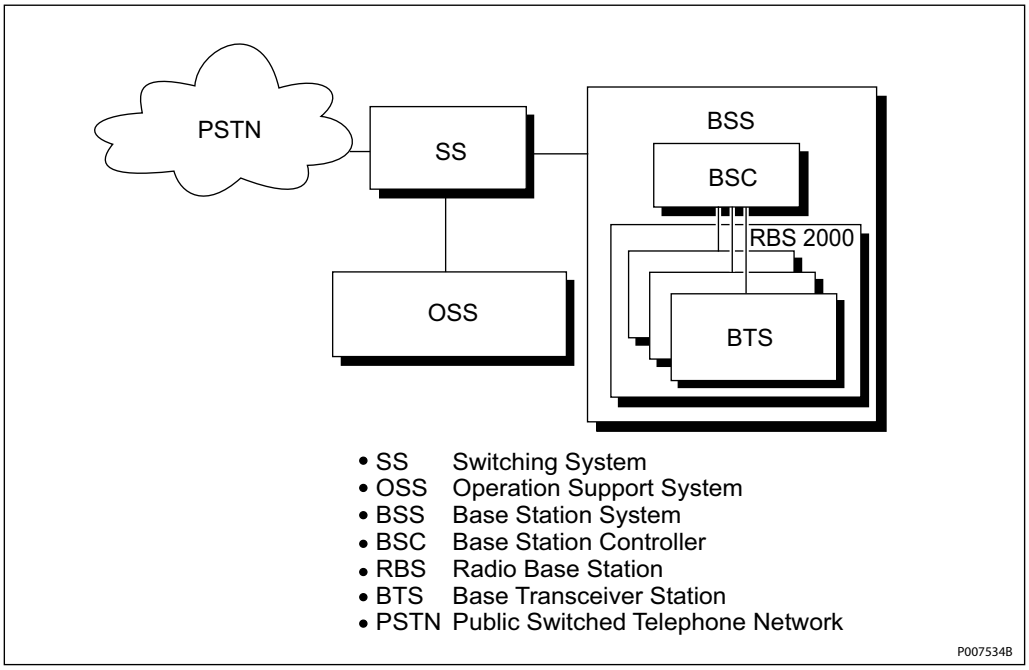


Figure 1 RBS 2000 in the Ericsson GSM system

The Base Station System (BSS) contains two functional entities; the Base Station Controller (BSC) and the Base Transceiver Station (BTS).

The BSC handles radio-related functions such as handover, management of the radio network resources, and cell configuration data. It also controls radio frequency power levels in RBSs and MSs.

The BTS is a network component which serves one cell, and is controlled by the BSC. The BTS consists of the radio transceivers and all the digital signal processing equipment. RBS 2000 contains equipment for one to three BTSs.

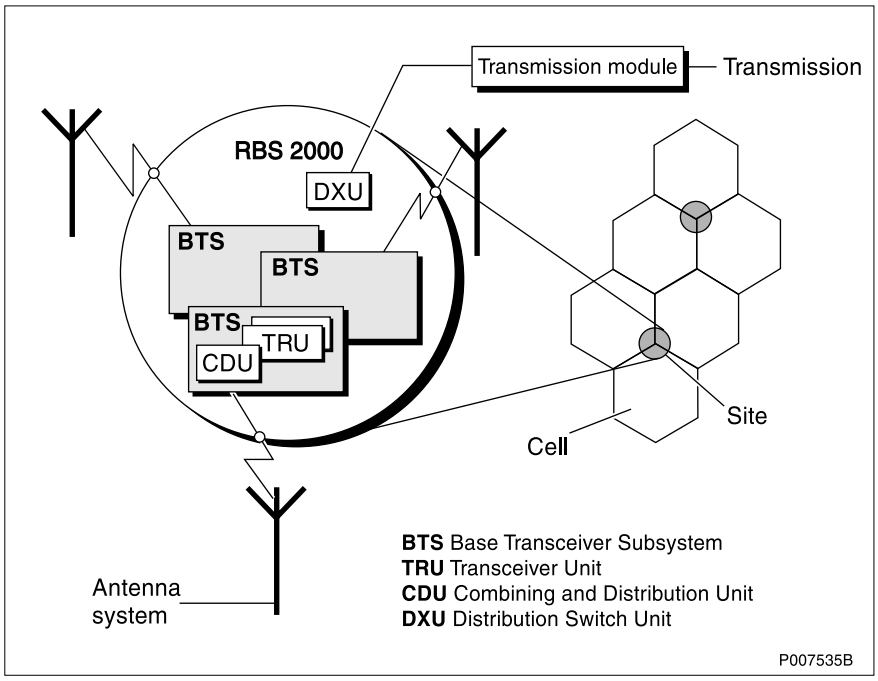


Figure 2 An example of an RBS 2000 servicing a three-cell site

1.2 Radio Base Station

The Radio Base Station 2000 (RBS 2000) is Ericsson's second generation of RBSs, developed to meet the GSM specifications for BTSs.

2 References

3GPP TS 45:005 Digital cellular telecommunications system (Phase 2+); Radio transmission and reception (3GPP TS 45:005 Release 4).

3GPP TS 45:008 Digital cellular telecommunications system (Phase 2+); Radio subsystem link control (3GPP TS 45:008 Release 4).

3 Definitions

Tower Mounted Amplifier (TMA)

The TMA compensates for signal loss in the receiver antenna cables, reduces system noise and improves uplink sensitivity. The TMA can consist of a duplex filter. Duplex is the function that allows communication in two directions (sending and receiving) on one channel.

The TMAs used are Dual Duplex TMA (ddTMA).

Antenna Reference Point

The antenna reference point is the point where the radio signal crosses the RBS border, that is the connector for the antenna feeder. See the figure below.

Note: The TMA is inside the RBS border.

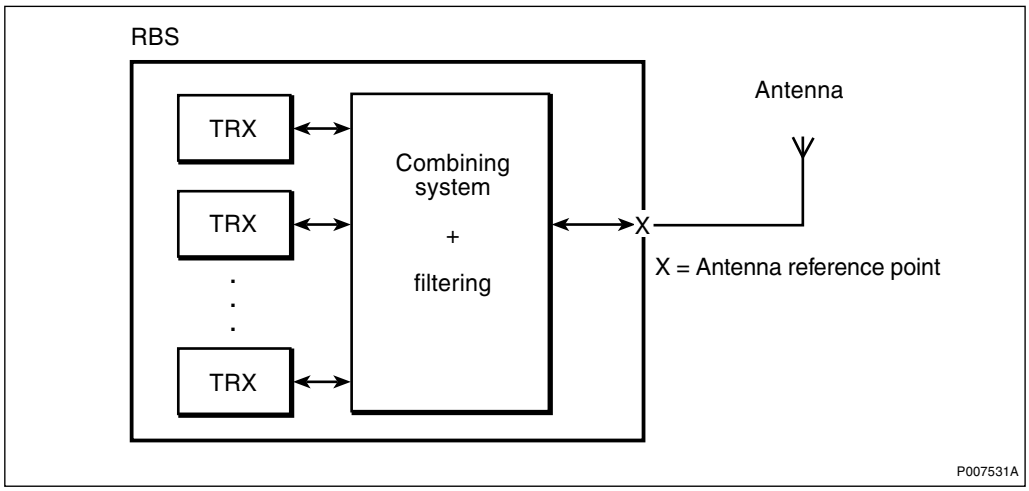


Figure 3 Antenna reference point

Antenna System

The antenna system comprises all RF transmission and reception antennas, directed to cover the same area or multi-casting configurations.

Base Transceiver Station (BTS)

A BTS is a unit operating on a set of frequencies in one cell.

Basic Configuration

A basic configuration is a specified set of transceivers, CDUs and (in some cases) TMAs, connected to one antenna system.

A basic configuration can be multiplied or used in combination with other basic configurations, in order to build the necessary site equipment.

Radio Base Station (RBS)

An RBS constitutes all the equipment in an Ericsson base station, and may comprise several BTSs.

Each RBS has one DXU, which consists of a maximum of six TRXs.

Site Cell Configuration (SCC)

The SCC is a geographical concept describing how an area around one RBS site is divided into radio traffic areas. The following types of site are defined:

Omni-site Radio coverage in one 360 degree sector, that is in one area, using one BTS.

2-sector site Radio coverage in two sectors, that is two distinct areas, using two BTSs.

3-sector site Radio coverage in three sectors, that is three distinct areas, using three BTSs.

3.1 Cabinet Types

RBS 2207 Indoor cabinet with a maximum of three dTRUs/six TRXs per cabinet

4 Frequency Bands

GSM 800	Uplink:	824 – 849 MHz
	Downlink:	869 – 894 MHz
P-GSM 900	Uplink:	890 – 915 MHz
	Downlink:	935 – 960 MHz
E-GSM 900	Uplink:	880 – 915 MHz
	Downlink:	925 – 960 MHz
GSM 1800	Uplink:	1710 – 1785 MHz
	Downlink:	1805 – 1880 MHz
GSM 1900	Uplink:	1850 – 1910 MHz
	Downlink:	1930 – 1990 MHz

These frequency bands are supported by the configurations described in this document.

5 Basic Configurations

The GSM 800, P-GSM 900, E-GSM 900, GSM 1800 and GSM 1900 configurations meet the GSM requirements, except where otherwise stated.

The radio performance of a configuration is defined at the TX and RX antenna reference points at the RBS border. There is an X close to every reference point in the following figures. The RBS border is not included in the figures.

The equivalent output power with SW power boost (TX diversity) configured is the original output power specified for the basic configuration, increased by typically 3 dB (if separate TX antennas are used). The configurations that support SW power boost are listed in *Section 6.2 on page 13.*

Functional views of radio signal paths for various configurations are shown in *Figure 4 on page 8* up to and including *Figure 6 on page 10.* Only components necessary to illustrate the configuration are shown.

5.1 dTRU Topology

Configuration of Hybrid Combiner

The dTRU can be configured with or without the hybrid combiner, using two cables external to the dTRU.

RX Signals Distributed from Two Ports

The RX signals can be distributed from the RX1 and RX2 ports to all four receivers when both transceivers are connected to the same antenna system.

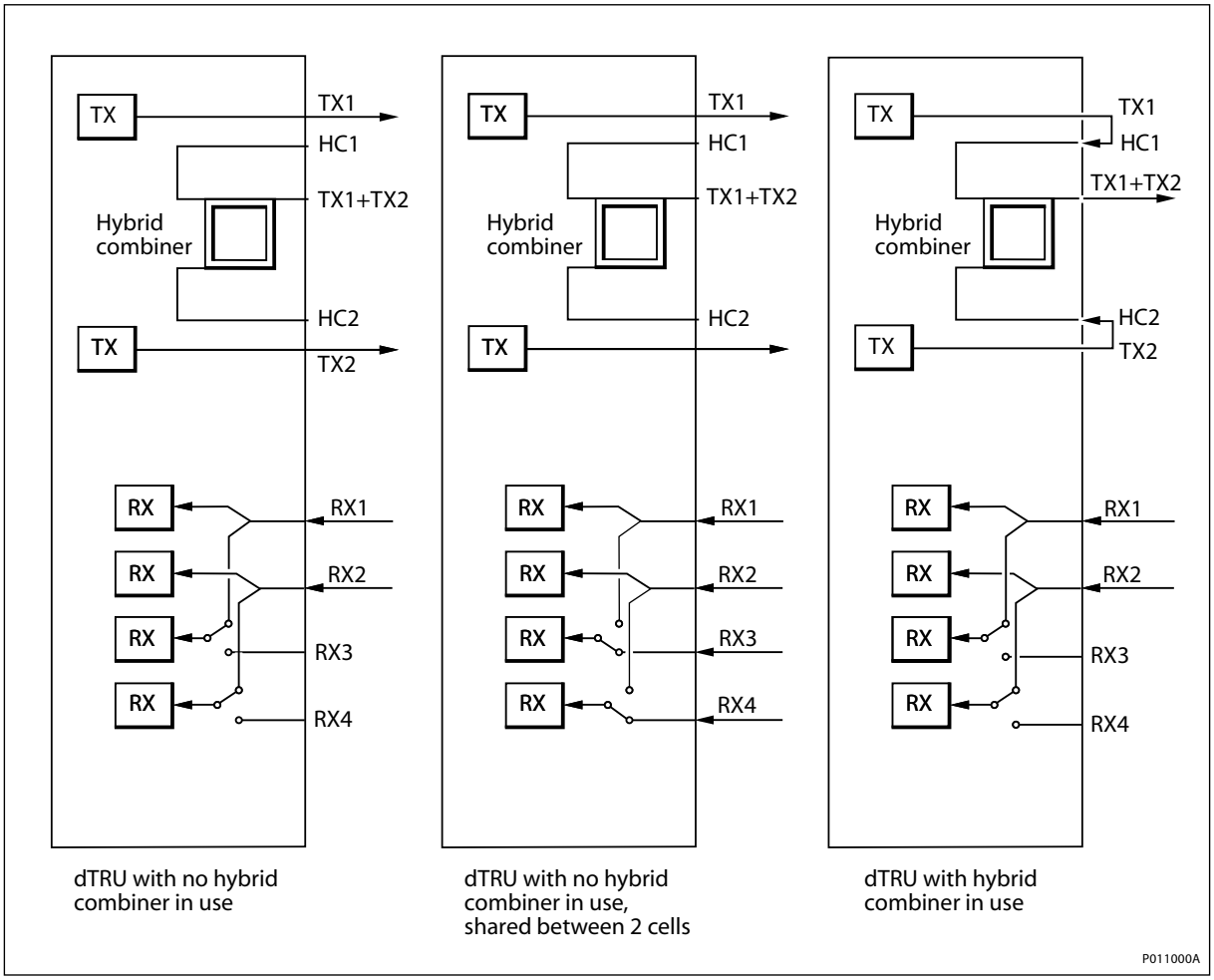


Figure 4 dTRU with and without hybrid combiner in use

5.2 CDU-G Configurations

Configuration 2x1 CDU-G without hybrid combiner

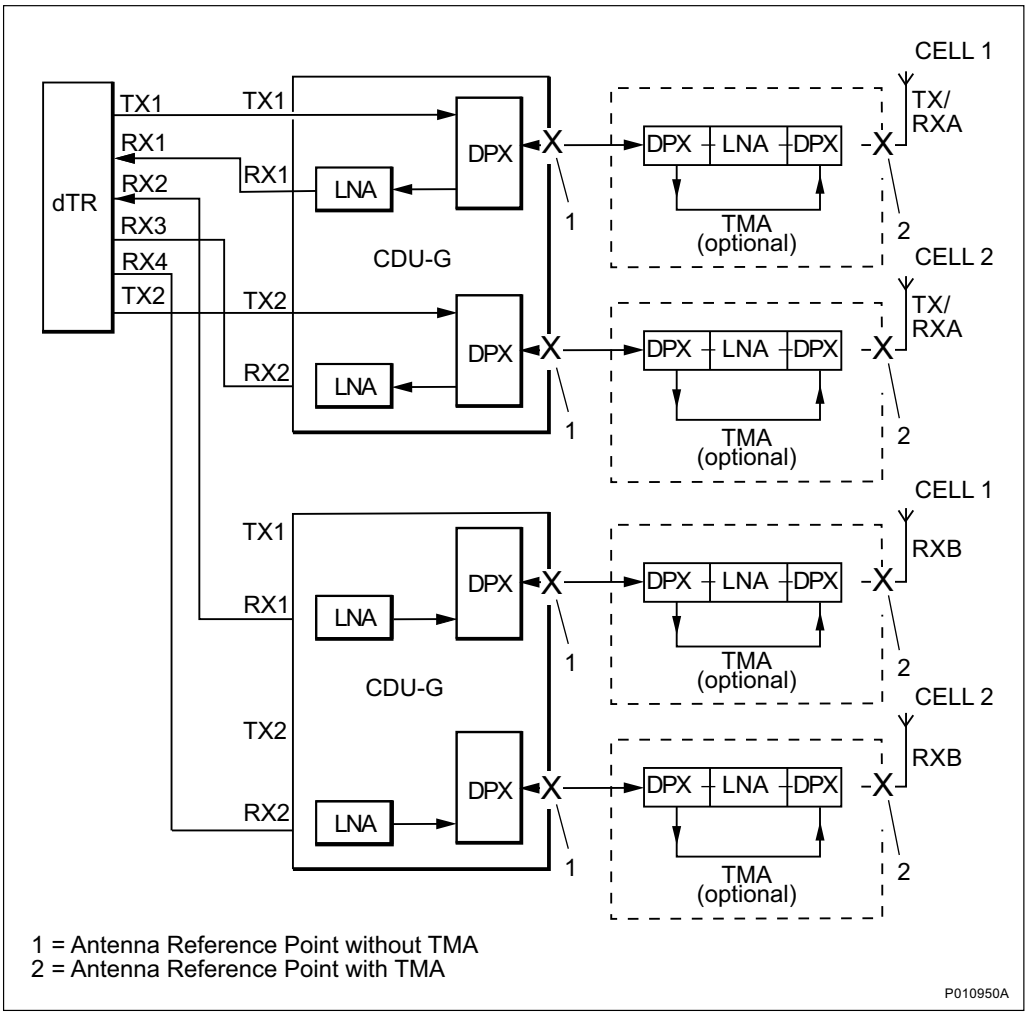


Figure 5 2x1 CDU-G uncombined

Characteristics for one cell

Number of CDUs	2 (2 CDUs support two sectors)
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900
	GSM 1800
	GSM 1900
Max. number of TRXs	1 (1 dTRU supports two sectors)
Number of feeders	2
Number of antennas	2
Antenna configuration	TX/RX + RX
TMA configuration (optional)	ddTMA + ddTMA

Configuration 1x2 CDU-G with hybrid combiner

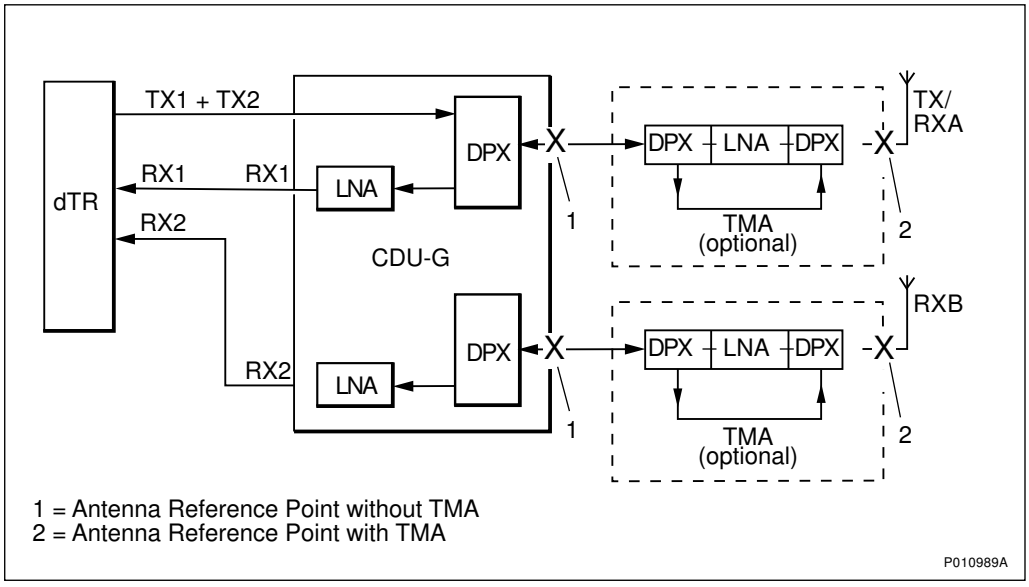


Figure 6 1x2 CDU-G uncombined

Characteristics

Number of CDUs	1
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900
	GSM 1800
	GSM 1900
Max. number of TRXs	2
Number of feeders	2
Number of antennas	2
Antenna configuration	TX/RX + RX
TMA configuration (optional)	ddTMA + ddTMA

Configuration 1x2 CDU-G without hybrid combiner

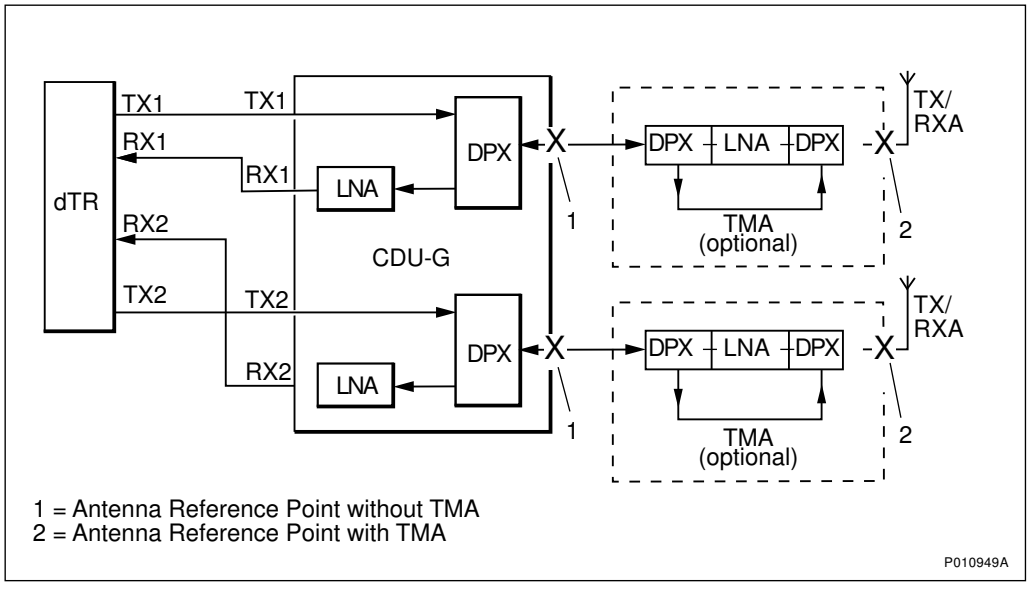


Figure 7 1x2 CDU-G uncombined

Characteristics

Number of CDUs	1
Frequency band	GSM 800
	P-GSM 900
	E-GSM 900
	GSM 1800
	GSM 1900
Max. number of TRXs	2
Number of feeders	2
Number of antennas	2
Antenna configuration	TX/RX + TX/RX
TMA configuration (optional)	ddTMA + ddTMA

6 Site Cell Configurations (SCC)

This section shows SCCs in one RBS. More RBSs can be combined to form larger configurations at a site.

The following SCCs are supported by the RBS:

- Specified basic radio configurations
- The RBS with any number of dTRUs within the specified range inserted in the specified position order

6.1 Single Band Configurations

This section describes single band configurations for CDU-G.

CDU-G Single Band Configurations without Hybrid Combiner

Table 1 CDU-G configurations for GSM 800, P-GSM 900, E-GSM, GSM 1800 or GSM 1900

No. of cells	**Max no. of TRXs Cell:**			**No. of antennas Cell:**			***See:***
	1	**2**	**3**	**1**	**2**	**3**	
1	2			2			*Figure 6 on page 10* (config. x1)
2	2	2		2	2		*Figure 6 on page 10* (config. x2)
	1	1		2	2		*Figure 5 on page 9* (config. x2)
3	2	2	2	2	2	2	*Figure 6 on page 10* (config. x3)
	1	1	2	2	2	2	Cell 1: *Figure 5 on page 9* Cell 2: *Figure 5 on page 9* Cell 3: *Figure 6 on page 10* (config. x3)

CDU-G Single Band Configurations with Hybrid Combiner

Table 2 CDU-G configurations for GSM 800, P-GSM 900, E-GSM, GSM 1800 or GSM 1900

No. of cells	**Max no. of TRXs Cell:**			**No. of antennas Cell:**			***See:***
	1	**2**	**3**	**1**	**2**	**3**	
1	2			2			*Figure 6 on page 10* (config. x1)
2	2	2		2	2		*Figure 6 on page 10* (config. x2)
3	2	2	2	2	2	2	*Figure 6 on page 10* (config. x3)

6.2 SW Power Boost Configurations with CDU-G

This section does not include any additional site cell configurations. The section specifies which configurations support SW Power Boost (SPB).

A minimum of two TRXs is required in an antenna system in order to use SW Power Boost. Separate TX antennas must be used for the two transmitters in an SPB configuration.

SPB with CDU-G Configurations without Hybrid Combiner

SW Power Boost is supported in all of the SCCs with CDU-G, specified in *Section 6 on page 12,* which fulfill the following conditions:

- The configurations do not use hybrid combiner
- The configurations have the TRX connected to different antennas in the same antenna system

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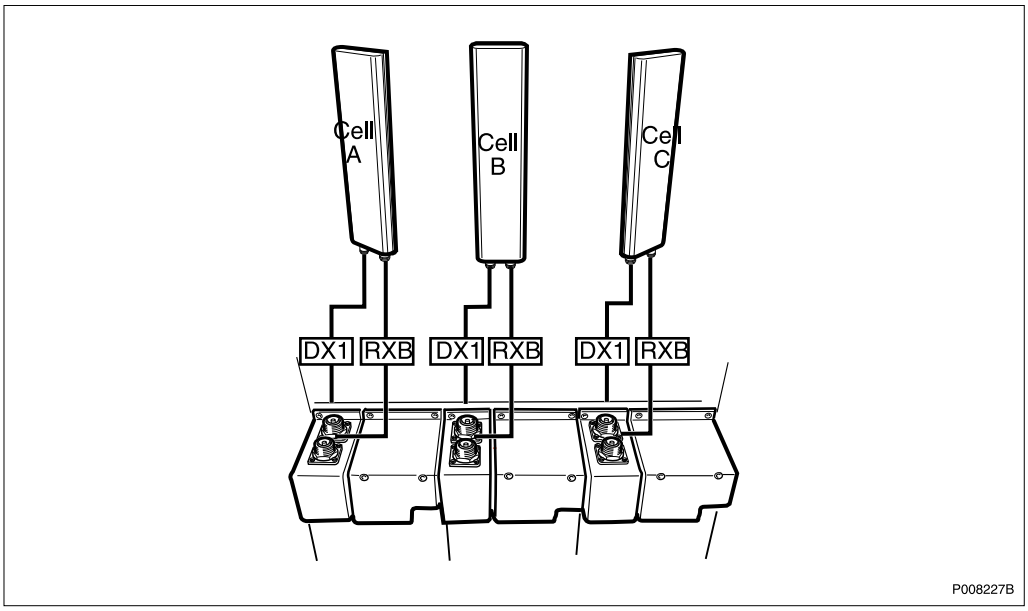
RBS 2106
Antenna Configurations
Description

This document describes the antenna configurations possible for the RBS 2106.



ERICSSON

Contents

1 Introduction

The various configurations available for cabinets are described according to the following example:

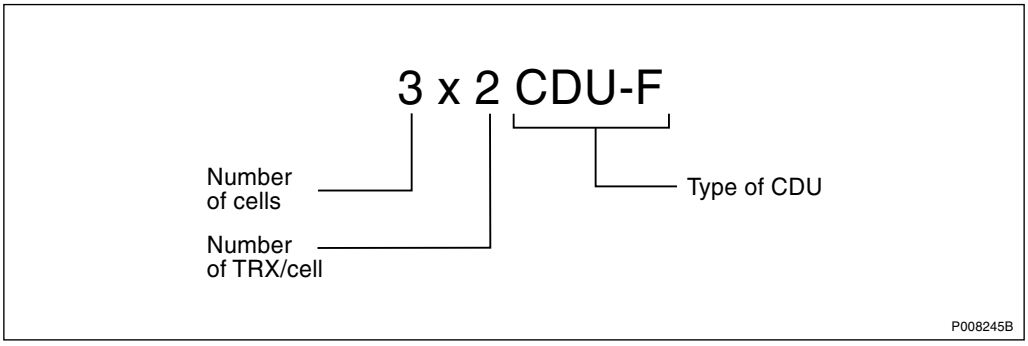


Figure 1 CDU Configuration Key

In the example above, the cabinet is configured for three cells, each using two TRXs. The total number of TRXs is thus six in this case. The CDU is type CDU-F.

Note: If TMA is used the bias injectors must be installed.

2 Antenna Connection Field

This section describes the antenna connection fields in the RBS 2106.

Antenna jumpers are connected at the connection field below.

Each CDU uses a set of standard RF wiring patterns for connection between each CDU and the antenna connection field.

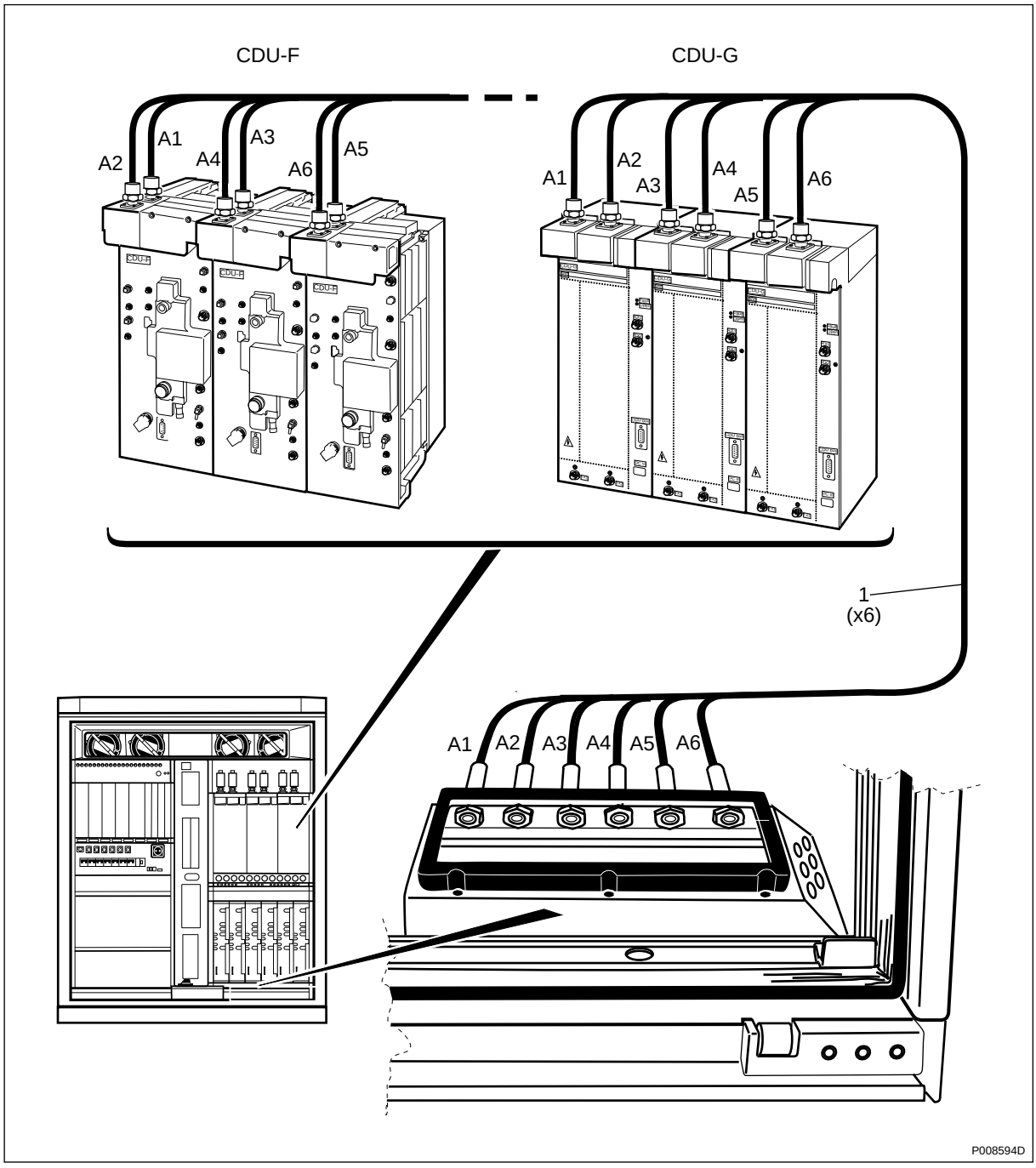


Figure 2 Internal Cabling between CDUs and Antenna Connection Field

Certain configurations require the use of an Antenna Sharing Unit (ASU). In these cases, signal is shared between cabinets via the antenna sharing connection fields.

The figure below gives an overview of the antenna sharing connectors and the cabling from the ASU.

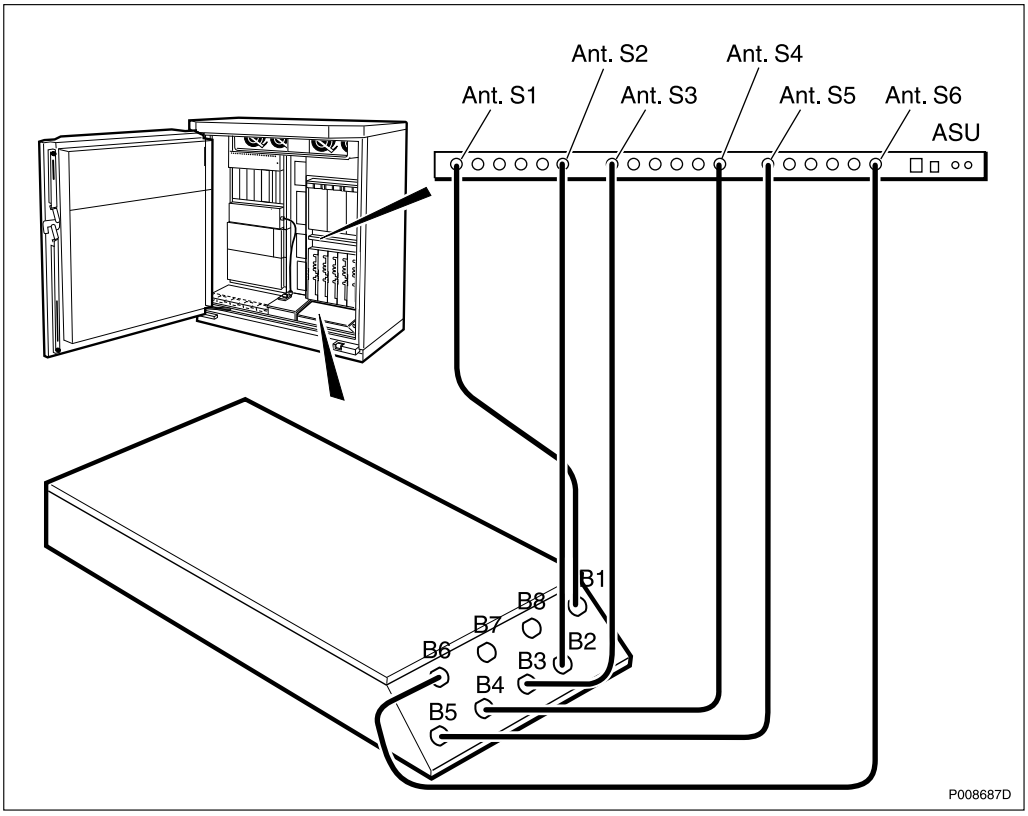


Figure 3 Cabling between ASU and Antenna Sharing Connectors

3 CDU-F Antenna Connections

The antenna connectors are located in the antenna connection field, *see Section 2 Antenna Connection Field on page 4*.

The antenna connectors are to the top of the CDU, *see figures below.*

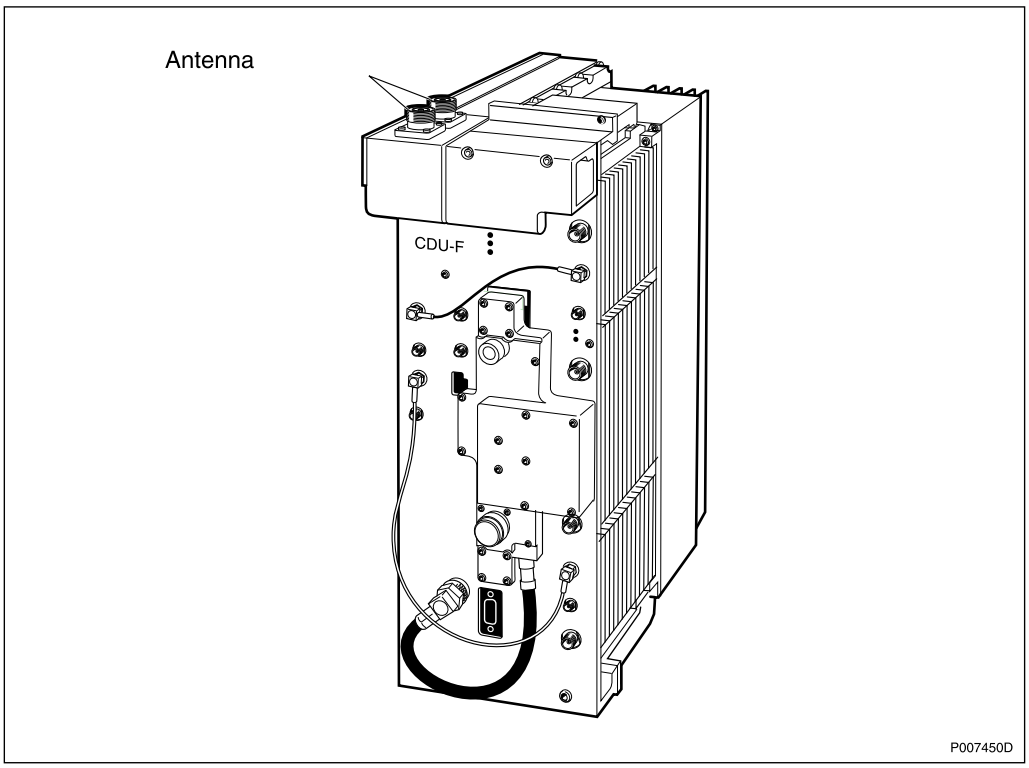


Figure 4 CDU-F Layout

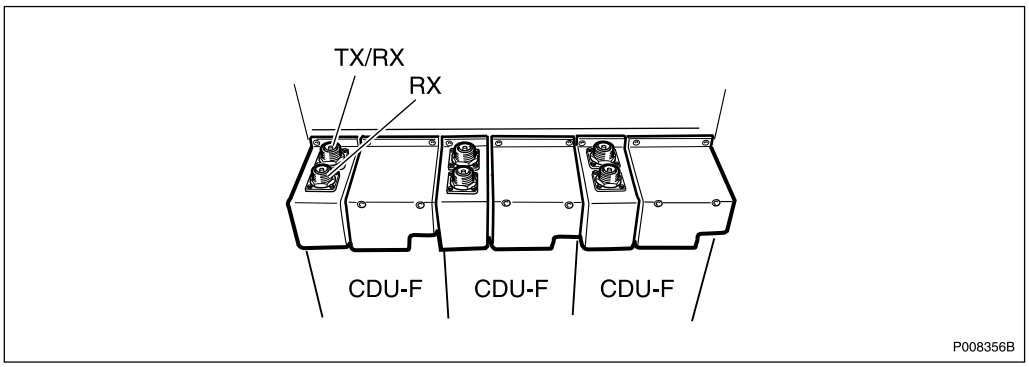


Figure 5 CDU-F Antenna Feeder Connectors

4 CDU-F Configurations

Note: In the figures and tables that follow, only cabinets that are fully-equipped are shown. Configurations consisting of part of the fully-equipped cabinet can also be extracted from the following figures and tables.

See Figure 2 on page 5, Figure 3 on page 6 and *Figure 5 on page 7* for a description of the column headers in the tables below.

4.1 3x4 CDU-F

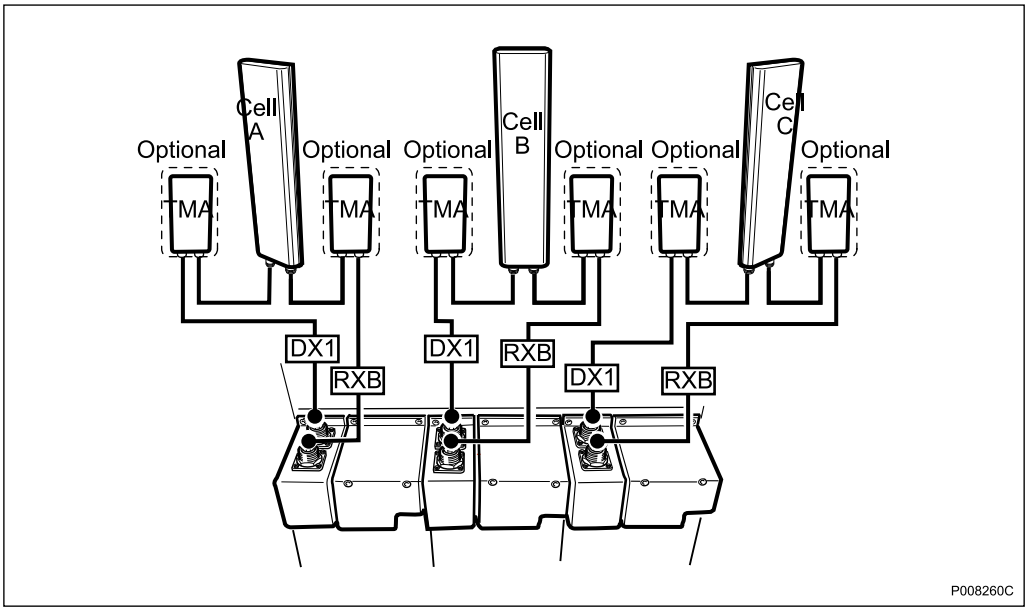


Figure 6 3x4 CDU-F Configuration

Table 1 3x4 CDU-F

Cell	CDU					ASU Connector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX	A1	TX/RX A	1
		CellA: RXB	RX	A2	RX B	2
B	2	CellB: DX1	TX/RX	A3	TX/RX A	3
		CellB: RXB	RX	A4	RX B	4
C	3	CellC: DX1	TX/RX	A5	TX/RX A	5
		CellC: RXB	RX	A6	RX B	6

4.2 1x8 CDU-F

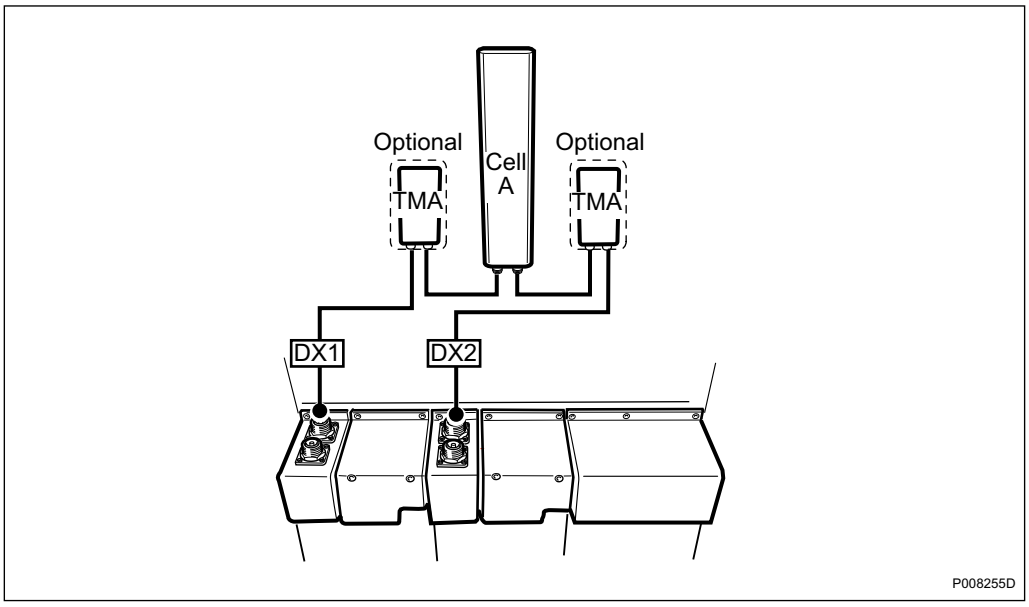


Figure 7 1x8 CDU-F Configuration

Table 2 1x8 CDU-F

Cell	CDU					ASU Connector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX	A1	TX/RX A	1
	2	CellA: DX2	TX/RX	A3	TX/RX B	3
alt. A	2	CellA: DX1	TX/RX	A3	TX/RX A	3
	3	CellA: DX2	TX/RX	A5	TX/RX B	5

4.3 1x12 CDU-F

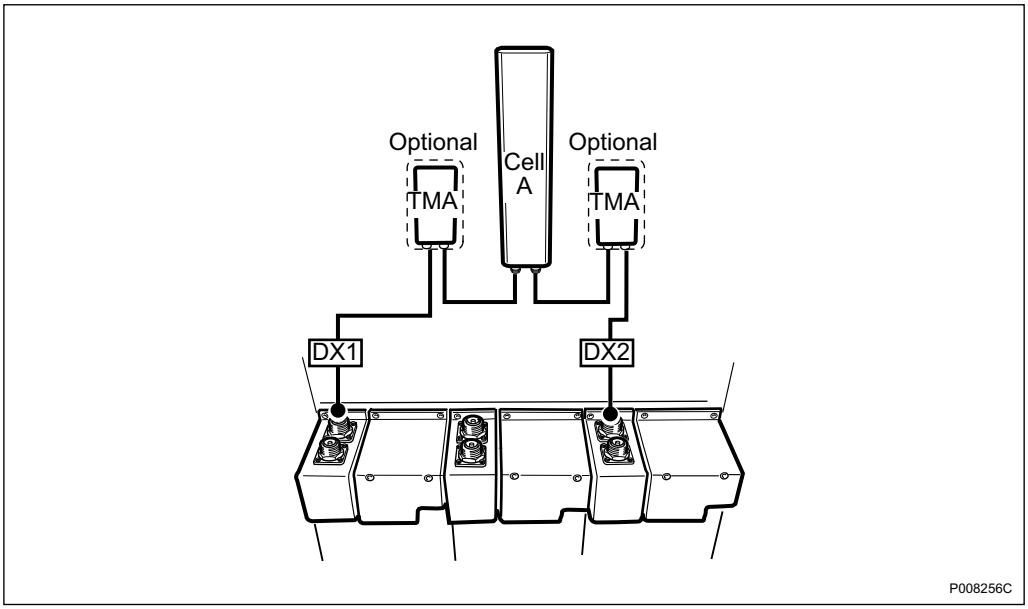


Figure 8 1x12 CDU-F Configuration

Table 3 1x12 CDU-F

Cell	CDU					ASU Connector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX	A1	TX/RX A	S1
	3	CellA: DX2	TX/RX	A5	TX/RX B	S5

4.4 2x6 CDU-F

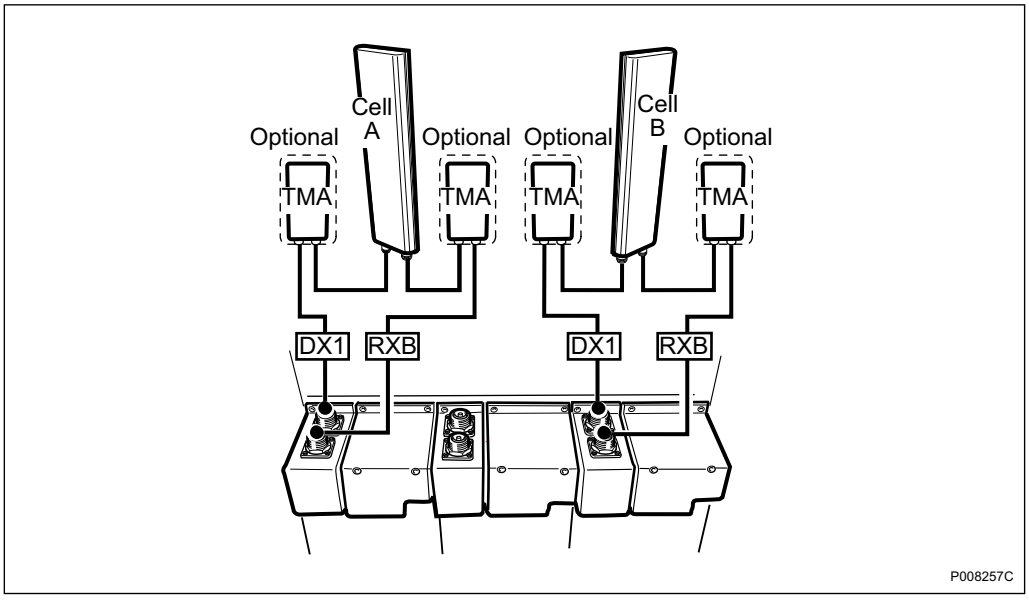


Figure 9 2x6 CDU-F Configuration

Table 4 2x6 CDU-F

Cell	CDU					ASU Connector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX	A1	TX/RX A	S1
		CellA: RXB	RX	A2	RX B	S2
B	3	CellB: DX1	TX/RX	A5	TX/RX A	S5
		CellB: RXB	RX	A6	RX B	S6

4.5 1x4 + 1x8 CDU-F

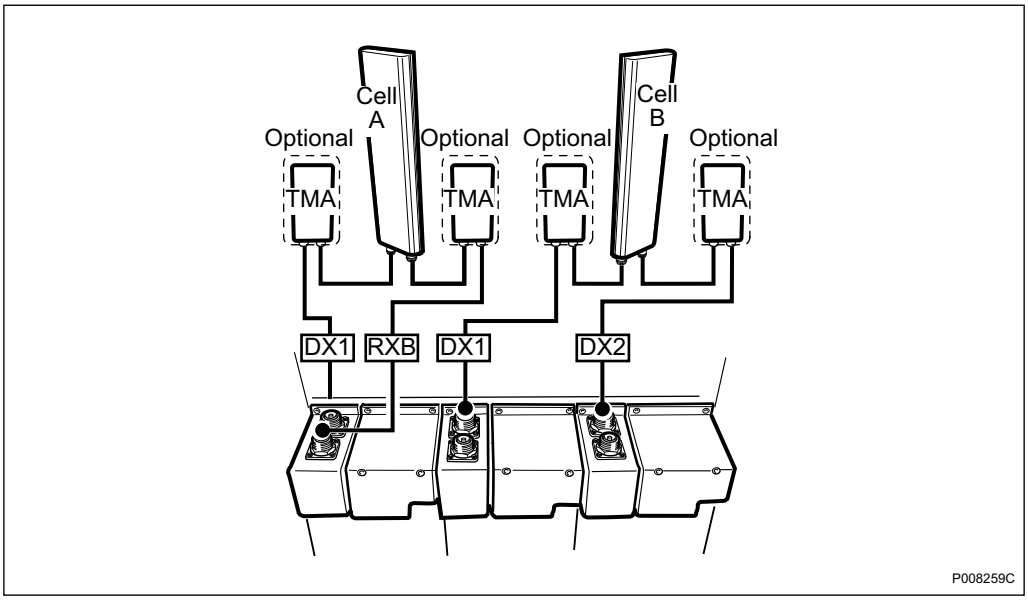


Figure 10 1x4 + 1x8 CDU-F Configuration

Table 5 1x4+1x8 CDU-F

Cell	CDU					ASU Connector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX	A1	TX/RX A	S1
		CellA: RXB	RX	A2	RX B	S2
B	2	CellB: DX1	TX/RX	A3	TX/RX B	S3
	3	CellB: DX2	TX/RX	A5	TX/RX B	S5

4.6 1x8 + 1x4 CDU-F

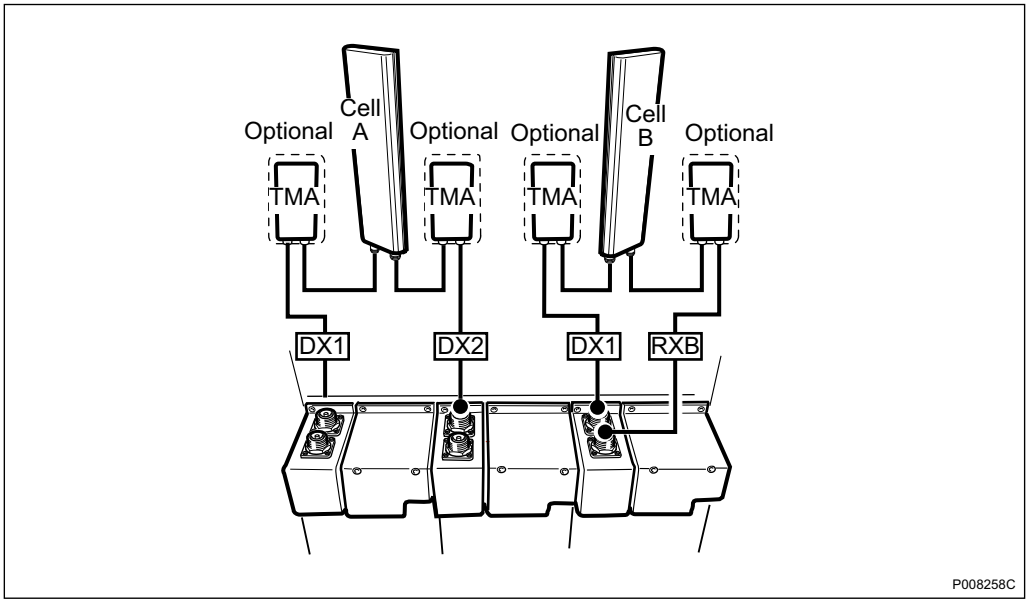


Figure 11 1x8 + 1x4 Configuration

Table 6 1x8+1x4 CDU-F

Cell	CDU					ASU Connector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX	A1	TX/RX A	S1
	2	CellA: DX2	TX/RX	A3	TX/RX B	S3
B	3	CellB: DX1	TX/RX	A5	TX/RX A	S5
		CellB: RXB	RX	A6	RX B	S6

4.7 3x8 CDU-F

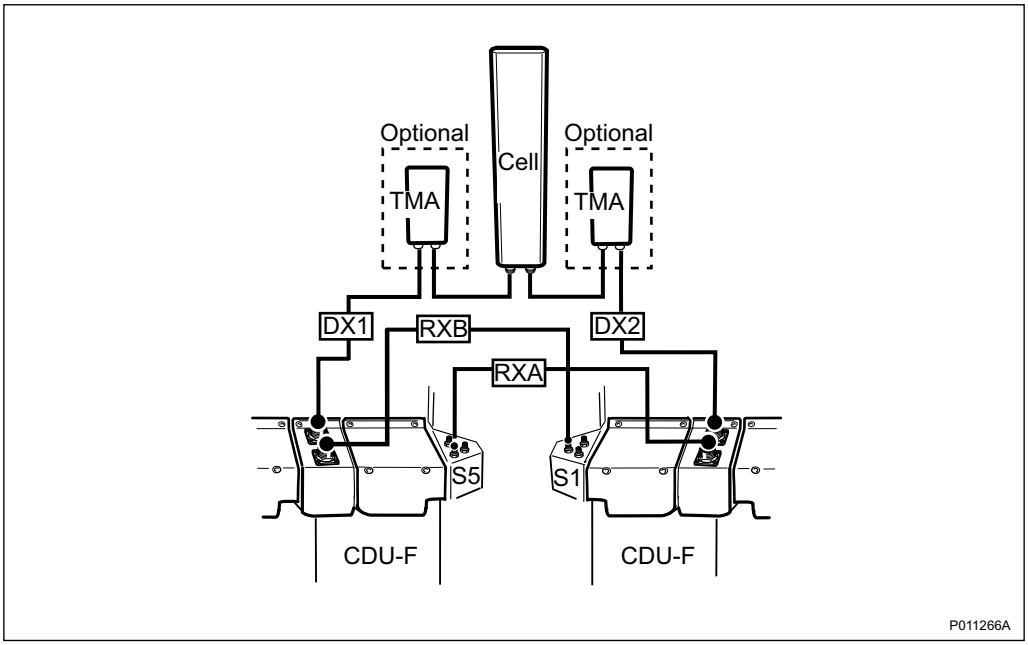


Figure 12 3x8 CDU-F Configuration

Table 7 3x8 CDU-F, Mid-Sector

	CDU					
			Connector			
Cell	**CDU No.**	**Feeder Label**	**CDU**	**Conn. Field**	**Signal**	**ASU Connector**
B	3, cab. 1	CellB: DX 1	TX/RX	A5	TX/RX A	B5
		CellB: RX B	RX		RX B	
	1, cab. 2	CellB: DX 2	TX/RX	A1	TX/RX B	B1
		CellB: RX A	RX		RX A	

5 CDU-G Antenna Connections

The antenna connectors are located in the antenna connection field, *see Section 2 Antenna Connection Field on page 4*.

The antenna connectors are connected to the top of the CDU, *see figures below.*

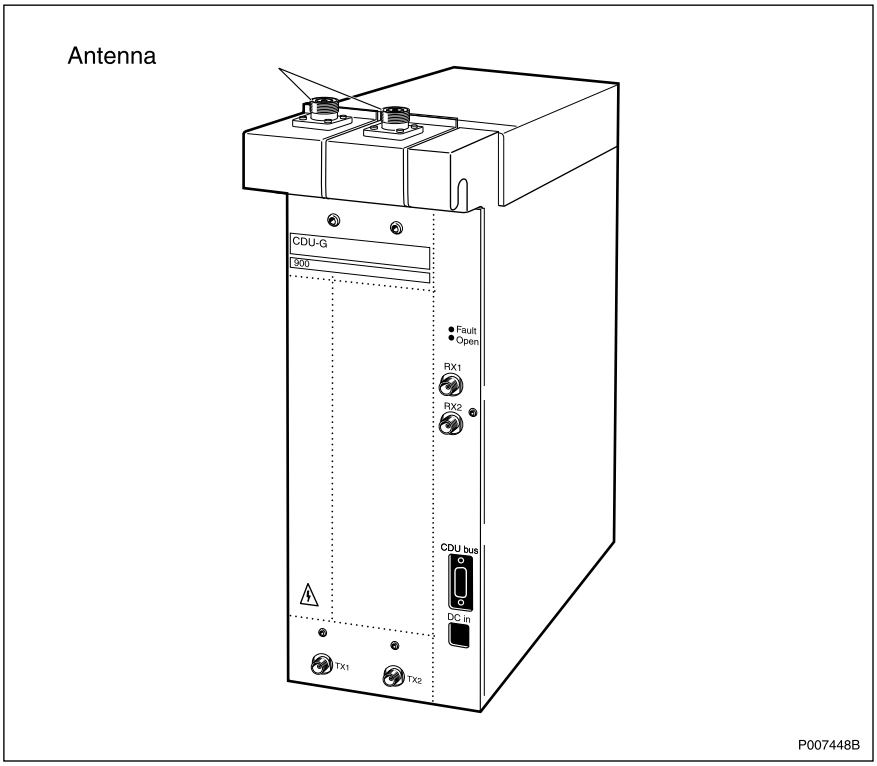


Figure 13 CDU-G Layout

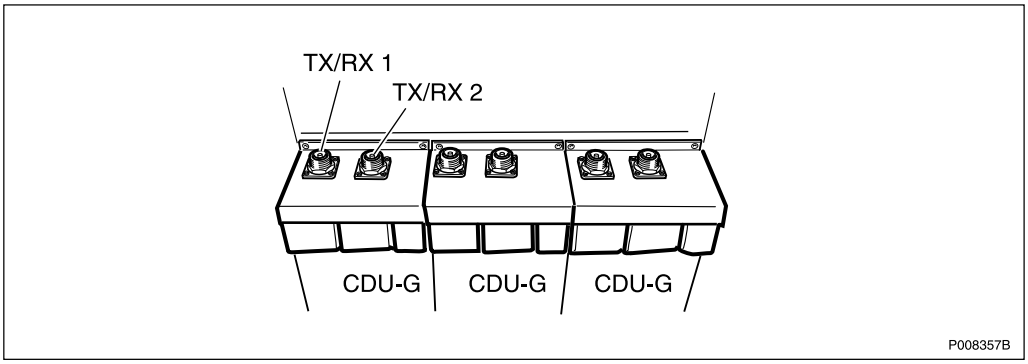


Figure 14 CDU-G Antenna Feeder Connectors

6 CDU-G Configurations

Note: In the figures and tables that follow, only cabinets that are fully-equipped are shown. Configurations consisting of part of the fully-equipped cabinet can also be extracted from the following figures and tables.

See Figure 2 on page 5, Figure 3 on page 6 and *Figure 14 on page 16* for a description of the column headers in the tables below.

6.1 3x2 CDU-G and 3x4 CDU-G

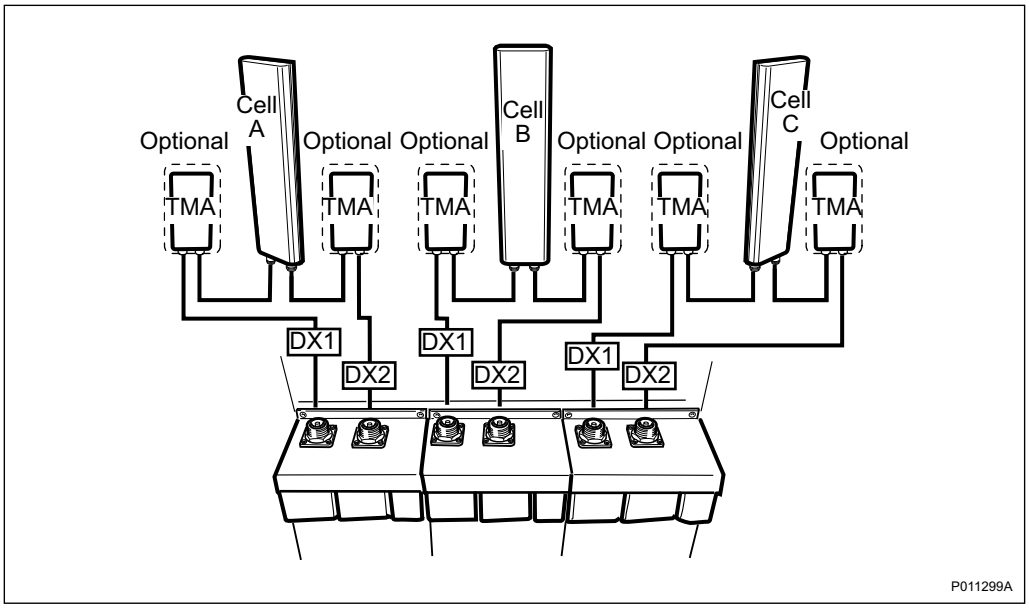


Figure 15 3x2 + 3x4 CDU-G Configuration

Table 8 RBS 2106: 3x2 CDU-G and 3x4 CDU-G

Cell	CDU					ASU Connector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX1	A1	TX/RX A	S1
		CellA: DX2	TX/RX2	A2	TX/RX B	S2
B	2	CellB: DX1	TX/RX1	A3	TX/RX A	S3
		CellB: DX2	TX/RX2	A4	TX/RX B	S4
C	3	CellC: DX1	TX/RX1	A5	TX/RX A	S5
		CellC: DX2	TX/RX2	A6	TX/RX B	S6

6.2 2x1 CDU-G

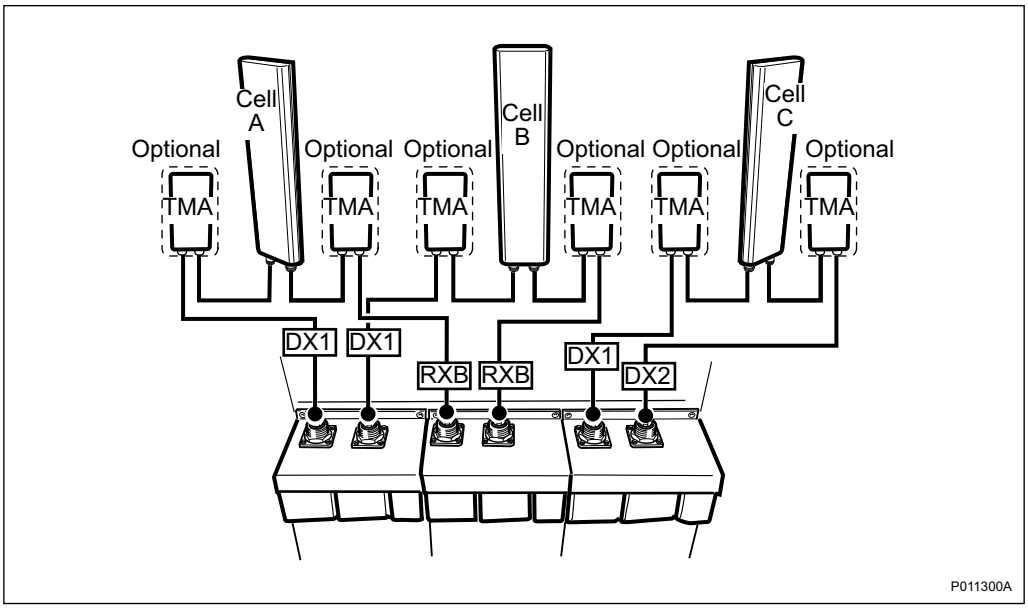


Figure 16 2x1 CDU-G Configuration

Table 9 2x1 CDU-G

Cell	CDU					ASU Connector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX1	A1	TX/RX A	S1
	2	CellA: RXB	TX/RX1	A3	RX B	S3
B	1	CellB: DX1	TX/RX2	A2	TX/RX A	S2
	2	CellB: RXB	TX/RX2	A4	RX B	S4

6.3 2x3 CDU-G

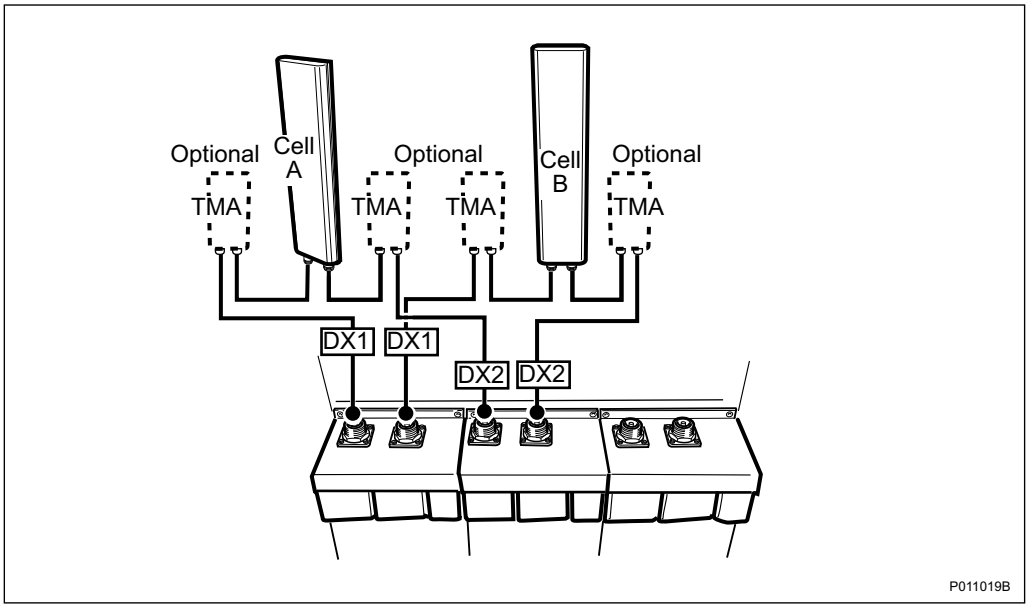


Figure 17 2x3 CD-G Configuration

Table 10 2x3 CDU-G

Cell	CDU					ASU Connector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX1	A1	TX/RX A	S1
	2	CellA: DX2	TX/RX1	A3	TX/RX B	S3
B	1	CellB: DX1	TX/RX2	A2	TX/RX A	S2
	2	CellB: DX2	TX/RX2	A4	TX/RX B	S4

6.4 1x4 CDU-G without Hybrid Combiner and 1x8 CDU-G with Hybrid Combiner

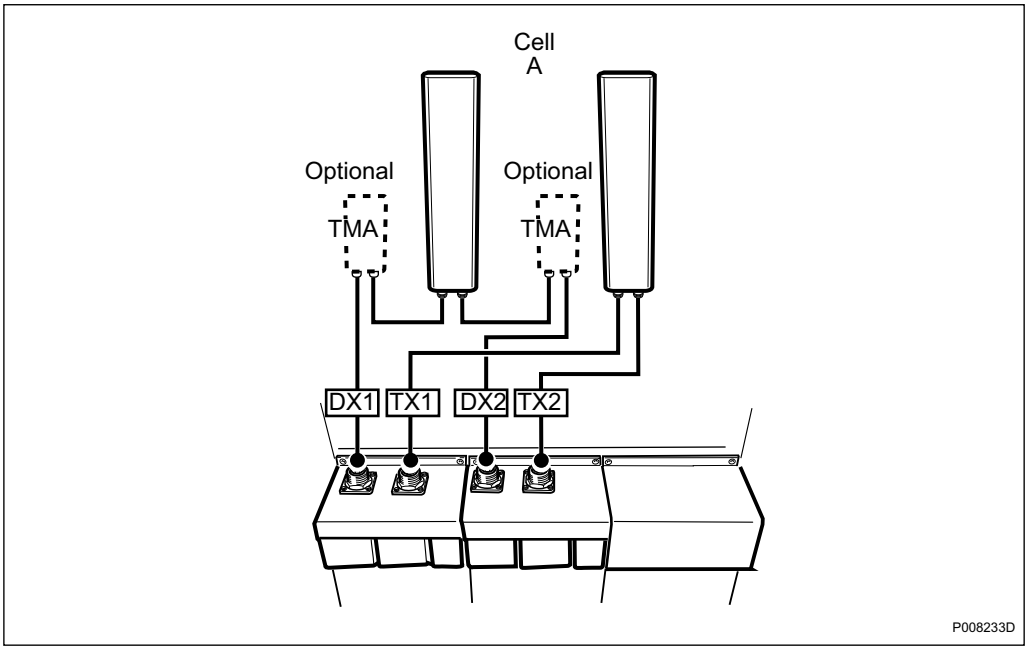


Figure 18 Configuration with TMA

Table 11 1x4 CDU-G without Hybrid Combiner and 1x8 CDU-G with Hybrid Combiner

	CDU					
			Connector			
Cell	**CDU No.**	**Feeder Label**	**CDU**	**Conn. Field**	**Signal**	**ASU Connector**
A	1	CellA: DX1	TX/RX1	A1	TX/RX A	S1
		CellA: TX1	TX/RX2	A2	RX B	
	2	CellA: DX2	TX/RX1	A3	TX/RX A	S3
		CellA: TX2	TX/RX2	A4	RX B	

6.5 1x6 CDU-G without Hybrid Combiner and 1x12 CDU-G with Hybrid Combiner

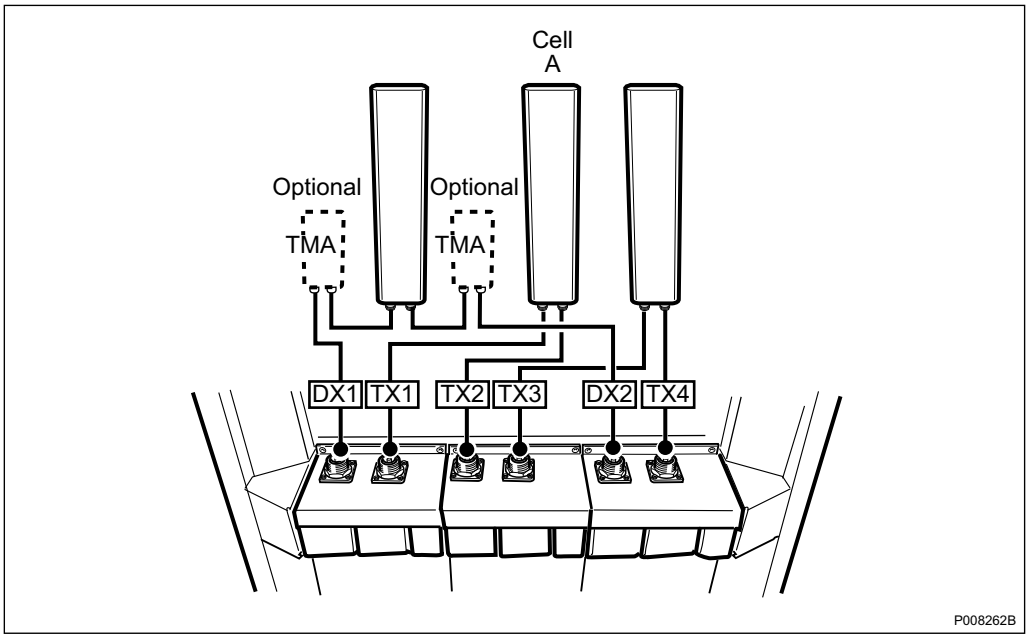


Figure 19 1x6 CDU-G Configuration

Table 12 1x6 CDU-G without Hybrid Combiner and 1x12 CDU-G with Hybrid Combiner

	CDU					
			Connector			
Cell	CDU No.	Feeder Label	CDU	Conn. Field	Signal	ASU Connector
A	1	CellA: DX1	TX/RX1	A1	TX/RX A	S1
		CellA: TX1	TX/RX2	A2	TX	
	2	CellA: TX2	TX/RX1	A3	TX	
		CellA: TX3	TX/RX2	A4	TX	
	3	CellA: DX2	TX/RX1	A5	TX/RX B	S5
		CellA: TX4	TX/RX2	A6	TX	

6.6 1x8 CDU-G with HCU

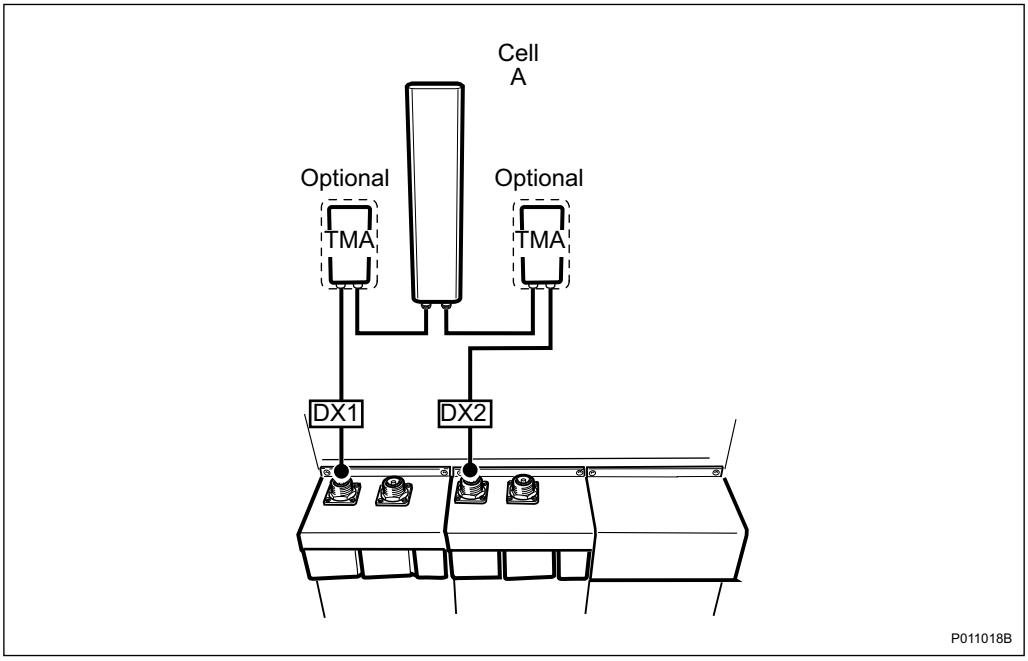


Figure 20 1x8 CDU-G Configuration

Table 13 1x8 CDU-G with HCU

Cell	CDU					ASU Con-nector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX1	A1	TX/RX A	S1
	2	CellA: DX2	TX/RX1	A3	TX/RX A	S2
Alt. A	2	CellA: DX1	TX/RX1	A3	TX/RX A	S3
	3	CellA: DX2	TX/RX1	A5	TX/RX A	S5

6.7 1x12 CDU-G with HCU

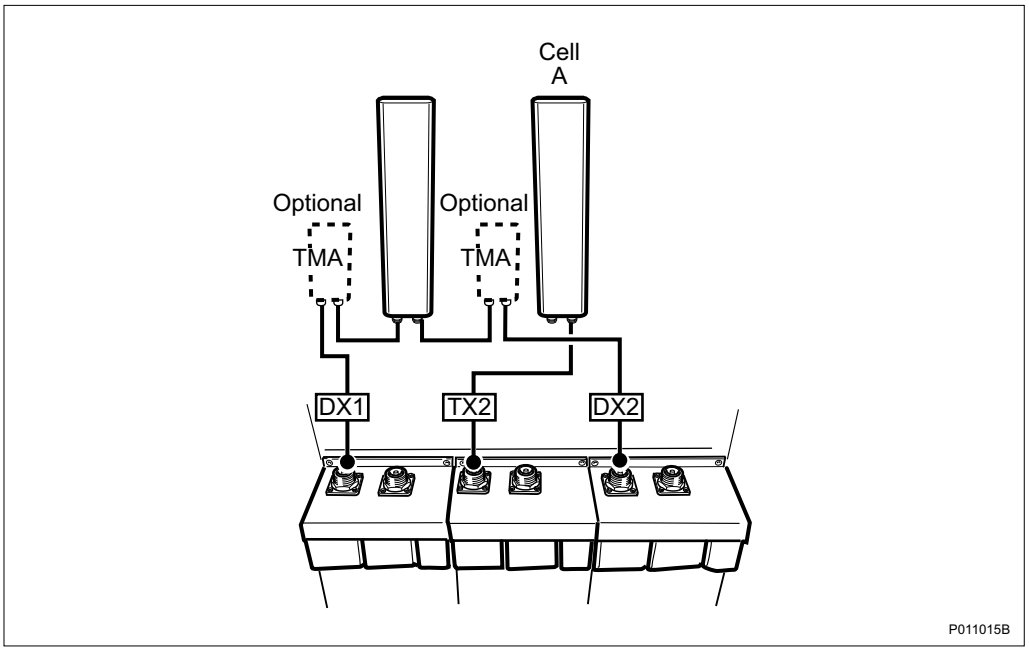


Figure 21 1x12 CDU-G with HCU

Table 14 1x12 CDU-G with HCU

Cell	CDU					ASU Con-nector
	CDU No.	Feeder Label	Connector		Signal	
			CDU	Conn. Field		
A	1	CellA: DX1	TX/RX 1	A1	TX/RX A	S1
	2	CellA: TX1	TX/RX 1	A3	TX	
	3	CellA: DX2	TX/RX 1	A5	TX/RX B	S5

6.8 2x6 CDU-G

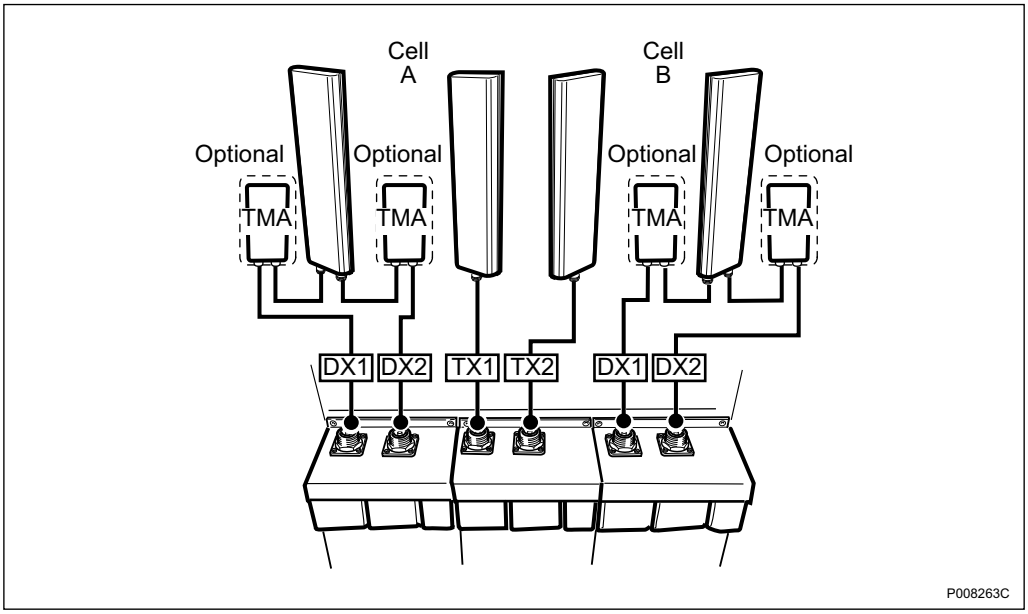


Figure 22 2x6 CDU-G Configuration

Table 15 2x6 CDU-G

	CDU					
			Connector			
Cell	**CDU No.**	**Feeder Label**	**CDU**	**Conn. Field**	**Signal**	**ASU Connector**
A	1	CellA: DX1	TX/RX1	A1	TX/RX A	S1
		CellA: DX2	TX/RX2	A2	TX/RX B	S2
	2	CellA: TX1	TX/RX1	A3	TX	
B		CellB: TX2	TX/RX2	A4	TX	
	3	CellB: DX1	TX/RX1	A5	TX/RX A	S5
		CellB: DX2	TX/RX2	A6	TX/RX B	S6

6.9 3x8 CDU-G with HCU

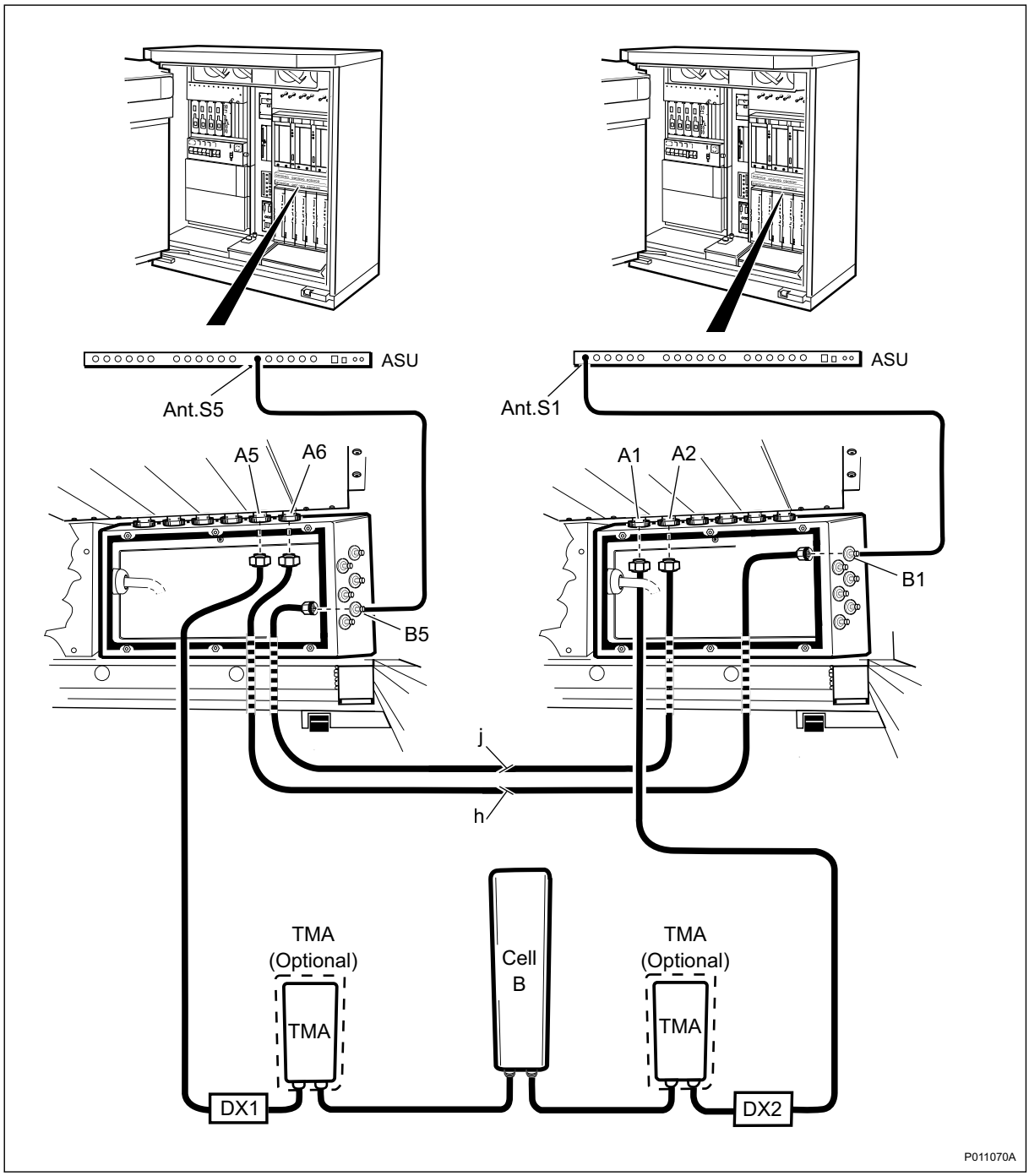


Figure 23 3x8 CDU-G Antenna Connection Field

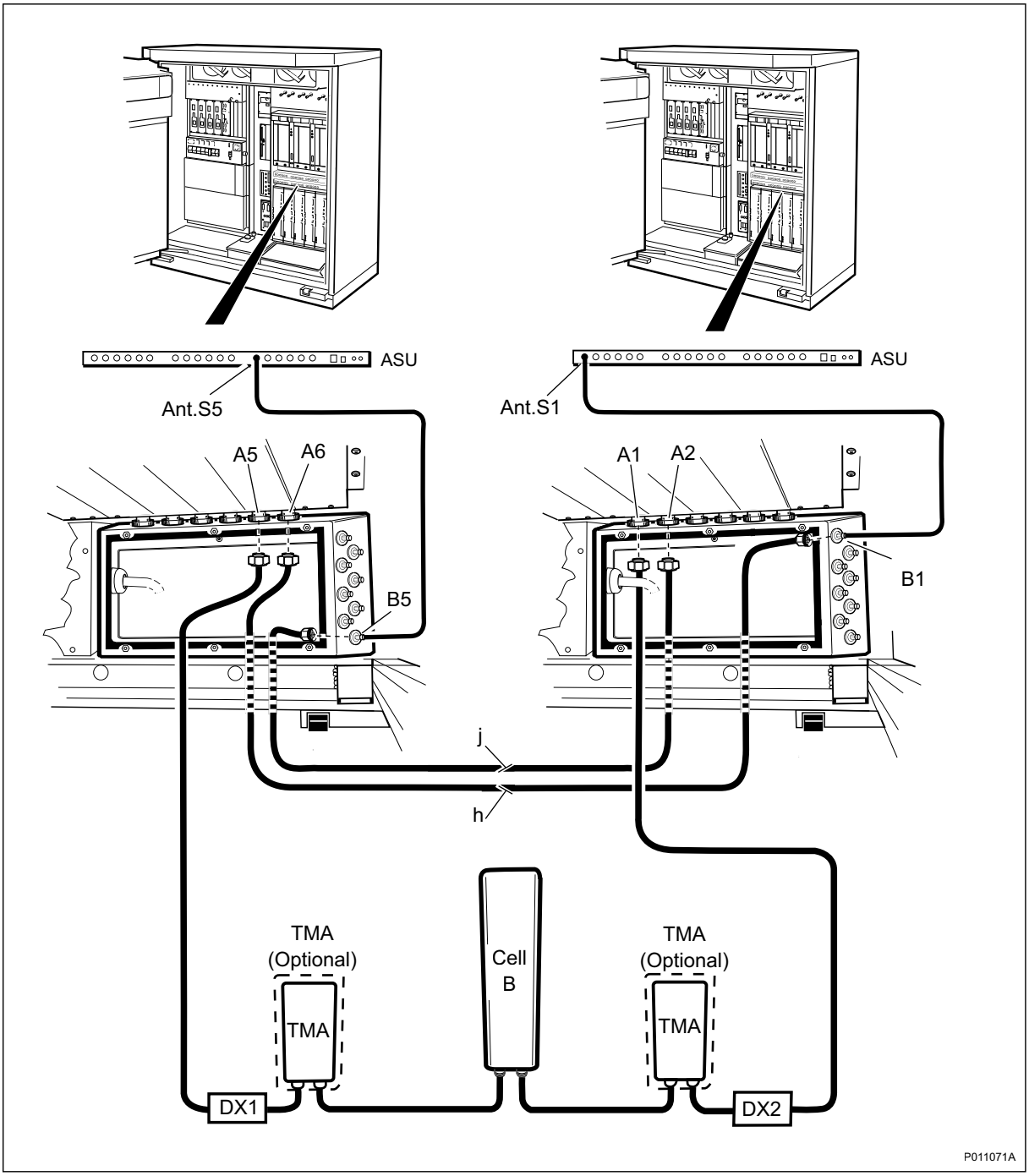


Figure 24 3x8 CDU-G Configuration, New Antenna Connection Field

Table 16 2x6 CDU-G

Cell	CDU					ASU Connector	Cabinet
	CDU No.	Feeder Label	Connector		Signal		
			CDU	Conn. Field			
A	1, cab. 1	CellA: DX1	TX/RX1	A1	TX/RX A	B1	1
	2, cab. 1	CellA: DX2	TX/RX2	A2	RX B	B2	
B	3, cab 1	CellB: DX 1	TX/RX1	A5	TX/RX A	B5	1
		CellB: RX B	TX/RX2	A6	RX B	B6	
	1, cab. 2	CellB: DX 2	TX/RX1	A1	TX/RX B	B1	2
		CellB: RX A	TX/RX2	A2	RX A	B2	
C	2, cab. 2	CellC: DX1	TX/RX1	A3	TX/RX A	B3	2
		CellC: RX B	TX/RX2	A4	RX B	B4	
	3, cab. 2	CellC: DX2	TX/RX1	A5	TX/RX A	B5	
		CellC: RX B	TX/RX2	A6	RX B	B6	

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