NOKIA

Interconnection Cables in TCSM2E and TCSM2A

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Changes between document issues are cumulative. Therefore, the latest document issue contains all changes made to previous issues.

Changes between Issues 6-1 and 6-0

From January 2006 onwards, the following changes take place in S11.5 and S11 first deliveries:

- new ET2 variants ET2E-TB and ET2E-TCB (from 01/2006 onwards),
- ET2A-TB (from 02/2006 onwards)

From February 2006 onwards, the new ET2 variants will also be included in S10.5 first deliveries.

Changes between Issues 6-0 and 5-0

Release S11.5: Editorial changes have been made. Information on TCSM2A-C has been removed.

Changes between Issues 5-0 and 4-1

Release S11 or later: Information on new ET2 plug-in units (ET2E-T, ET2E-TC and ET2A-T) added. Glossary removed.

Changes between Issues 4-1 and 4-0

Document identification changed to DN00157789 Issue 4-1 from CEE 28719/4 (V) en.

1 About this document

Interconnection Cables in TCSM2E and TCSM2A provides a list of all the internal cables of the DX 200 TCSM2E and TCSM2A applications. It gives the positions and routing of the cabling inside of TCSM2 rack TC2E. The prefabricated cables are delivered with the rack. The document is used both as a guidance when building the TCSM2s either in the factory or on customer's site and as a document in the *Site Documents.*

TCSM2 is a general name for the second generation Transcoder (Submultiplexer) equipment; TCSM2A stands for an ANSI (US) version and TCSM2E stands for an ETSI (EU) version of the transcoder.

Functionally the TCSM2 units are functional units of the BSC, but geographically the TCSM2 equipment can be located either on BSC (Base Station Controller) site or MSC (Mobile Switching Center) site.

1.1 Introduction to interconnection cables

Interconnection cables are used for cabling inside the TC2E rack. The cables are prefabricated to appropriate length and have connectors in both ends. The interconnection cables used are installed in the racks at the factory.

1.2 Notations used in the cables lists

The table in section *Cable lists* lists all internal cables of the DX 200 TCSM2. Each cable has an individual number. This number and the address of both ends of the cable are given. Both the name of the functional entity to which the end of the cable is connected and the coordinate of it is given in a table. The table has nine columns which are used as follows:

- The first column *(No)* shows the individual number of the cable. Both ends of the cable are marked with a label with this number on it.
- The second column *(Rack)* shows the name of the rack where the first end of the cable is connected.
- The third column *(FE)* shows the name of the Functional Entity (cartridge, fuse panel) where the first end of the cable is connected.
- The fourth column *(Connector)* shows the coordinate of the connector where the first end of the cable is connected. The structure of the coordinate is explained in the section below.
- The fifth *(Rack)*, sixth *(FE)* and seventh *(Connector)* columns show the same information about the other end of the cable as the second, third and fourth columns.
- The eighth column *(Type)* shows the type number of the cable. The type of the cable and connectors are coded in the first three letters and the length of the cable is shown in the following three numbers. The length is given in centimeters, if there is a letter C after the three numbers, and in decimeters, if there is no letter after the three numbers.
- The ninth column *(Use)* shows the use of the cable.

1.3 Structure of the coordinate for "Connector" Column

The coordinate is a group of eight, nine or ten digits which are divided in three subgroups:

- The first subgroup is a vertical coordinate of three numbers. It shows the height of the functional entity in the rack. Eight different heights are used in the TCSM2. Six of these are used for shelves where cartridges are located and two for power distribution units at the top of the rack. Vertical coordinates and their meanings are explained in the following table:
  - 002 = the lowest shelf
  - 030 = the second lowest shelf
  - 058 = the third lowest shelf
  - 088 = the fourth lowest shelf
  - 120 = the fifth lowest shelf
  - 148 = PSFP at the top of the rack
  - 152 = PSA20 at the top of the rack

- The second subgroup is a horizontal coordinate of two numbers and one letter. The two numbers indicate the horizontal position of the functional entity on the shelf and the letter shows whether the connector where the cable will be connected is located in the back side (B) or in the front (F) of the subrack. The horizontal coordinates used in the TCSM2 are:
  - 01, 03 = the rightmost cartridge, PSFP or PSA20 on the shelf
  - 13, 19, 49 = the middle cartridge on the shelf
  - 25,27,33,37,61 = the leftmost cartridge, PSFP or PSA20 on the shelf
- The third subgroup states the exact position of the connector inside the functional entity. The position is always marked on the functional entity by a label. The number of digits in this subgroup depends on the type of the functional unit and the use of the cable:
  - Two digits, the letter P and one number are used for power distribution connectors of PSFP.
  - Three digits, the letters PL and one number are used for power distribution connectors in different cartridges for cables coming from PSFP.
  - Three or four digits, the letters LL and one or two numbers are used for connectors for the power distribution cables between two cartridges.
  - Three digits, the numbers 01 and one number separated by an underscore are used for alarm connectors in PSFP and PSA20.
  - Four digits, two numbers and the letter R or S followed by one number are used for all other connectors. The letter shows the vertical coordinate inside a cartridge and the first two numbers show the horizontal coordinate inside a cartridge. The last number states in which of the eight possible positions inside an Euroconnector the cable is located.

2 Cables list

This section describes the positions and routing of the cabling inside of TCSM2 rack TC2E. The prefabricated cables are delivered with the rack.

Note

New ET2E-TB, ET2E-TCB and ET2A-TB plug-in units included in first deliveries of the TCSM2 are totally interchangeable with the currently used ET2 plug-in unit variants, that is, they use the same cabling and can be installed in the same cartridge with the currently used plug-in unit variants as follows:

- ET2E-TB plug-in units replace ET2ET-T or ET2E(-S) plug-in units with balanced interfaces
- ET2-TCB plug-in units replace ET2E-TC or ET2E-C(-SC) plug-in units with the unbalanced (coaxial) interfaces
- ET2A-TB plug-in units replace ET2A-T or ET2A plug-in units in ANSI environment.

No	Rack	FE	Connector	Rack	FE	Connector	Name	Use
1.1	TC2E	PSFP 0	148.07BP0	TC2E	ETTC 0	120.01B_PL1	CVKT00	PWR
1.2	TC2E	PSFP 0	148.07BP1	TC2E	ET1TC 1	120.13B_PL1	CVKT009	PWR
1.3	TC2E	PSFP 0	148.07BP2	TC2E	ETTC 2	120.49B_PL1	CVKT013	PWR
1.4	TC2E	PSFP 0	148.07BP3	TC2E	ETTC 3	120.61B_PL1	CVKT014	PWR
1.5	TC2E	PSFP 0	148.07BP4	TC2E	TC1C 0	088.01B_PL1	CVKT014	PWR
1.6	TC2E	PSFP 0	148.07BP5	TC2E	TC1C 2	058.01B_PL1	CVKT017	PWR
1.7	TC2E	PSFP 0	148.07BP6	TC2E	TC1C 4	030.01B_PL1	CVKT020	PWR
1.8	TC2E	PSFP 0	148.07BP7	TC2E	TC1C 6	002.01B_PL1	CVKT023	PWR
1.9	TC2E	PSFP 1	148.45BP0	TC2E	ET1TC 0	120.01B_PL2	CVKT014	PWR

No	Rack	FE	Connector	Rack	FE	Connector	Name	Use
1.1-0	TC2E	PSFP 1	148.45BP1	TC2E	ET1TC 1	120.13B_PL2	CVKT013	PWR
1.1-1	TC2E	PSFP 1	148.45BP2	TC2E	ET1TC 2	120.49B_PL2	CVKT009	PWR
1.1-2	TC2E	PSFP 1	148.45BP3	TC2E	ET1TC 3	120.61B_PL2	CVKT008	PWR
1.1-3	TC2E	PSFP 1	148.45BP4	TC2E	TC1C 1	088.37B_PL1	CVKT011	PWR
1.1-4	TC2E	PSFP 1	148.45BP5	TC2E	TC1C 3	058.37B_PL1	CVKT014	PWR
1.1-5	TC2E	PSFP 1	148.45BP6	TC2E	TC1C 5	030.37B_PL1	CVKT017	PWR
1.1-6	TC2E	PSFP 1	148.45BP7	TC2E	TC1C 7	002.37B_PL1	CVKT020	PWR
1.1-7	TC2E	PSFP 0	148.07B01_1	TC2E	ET1TC 0	120.01B04S5	CFB016	AL
1.1-8	TC2E	PSFP 0	148.07B01_3	TC2E	PSFP 1	148.45B01_1	CFB006	AL
1.1-9	TC2E	PSFP 0	148.07B01_5	TC2E	PSA20 0	152.13B01_1	CYN016	AL
1.2-0	TC2E	PSFP 0	148.07B01_7	TC2E	PSA20 1	152.43B01_1	CYN013	AL
1.2-1	TC2E	TC1C 0	088.01B00S5	TC2E	TC1C 1	088.37B00S6	CEA005	AL
1.2-2	TC2E	TC1C 1	088.37B00S5	TC2E	TC1C 2	058.01B00S6	CEA016	AL
1.2-3	TC2E	TC1C 2	058.01B00S5	TC2E	TC1C 3	058.37B00S6	CEA005	AL
1.2-4	TC2E	TC1C 3	058.37B00S5	TC2E	TC1C 4	030.01B00S6	CEA016	AL
1.2-5	TC2E	TC1C 4	030.01B00S5	TC2E	TC1C 5	030.37B00S6	CEA005	AL
1.2-6	TC2E	TC1C 5	030.37B00S5	TC2E	TC1C 6	002.01B00S6	CEA016	AL

No	Rack	FE	Connector	Rack	FE	Connector	Name	Use
1.2-7	TC2E	TC1C 6	002.01B00S5	TC2E	TC1C 7	002.37B00S6	CEA005	AL
1.2-8	TC2E	ET1TC 0	120.01B00V5	TC2E	TC1C 0	088.01B00S1	CEF021	PCM/ CLK/ AL
1.2-9	TC2E	ET1TC 0	120.01B00V1	TC2E	TC1C 1	088.37B00S1	CEF017	PCM/ CLK/ AL
1.3-0	TC2E	ET1TC 1	120.13B00V5	TC2E	TC1C 2	058.01B00S1	CEF023	PCM/ CLK/ AL
1.3-1	TC2E	ET1TC 1	120.13B00V1	TC2E	TC1C 3	058.37B00S1	CEF019	PCM/ CLK/ AL
1.3-2	TC2E	ET1TC 2	120.49B00V5	TC2E	TC1C 4	030.01B00S1	CEF023	PCM/ CLK/ AL
1.3-3	TC2E	ET1TC 2	120.49B00V1	TC2E	TC1C 5	030.37B00S1	CEF019	PCM/ CLK/ AL
1.3-4	TC2E	ET1TC 3	120.61B00V5	TC2E	TC1C 6	002.01B00S1	CEF025	PCM/ CLK/ AL
1.3-5	TC2E	ET1TC 3	120.61B00V1	TC2E	TC1C 7	002.37B00S1	CEF021	PCM/ CLK/ AL
1.3-6	TC2E	ET1TC 0	120.01BLL3	TC2E	CS8A-T	120.01B SCREW	CVT017C	GND
1.3-7	TC2E	ET1TC 1	120.13BLL3	TC2E	CS8A-T	120.13B SCREW	CVT017C	GND
1.3-8	TC2E	ET1TC 2	120.49BLL3	TC2E	CS8A-T	120.49B SCREW	CVT017C	GND
1.3-9	TC2E	ET1TC 3	120.61BLL3	TC2E	CS8A-T	120.61B SCREW	CVT017C	GND