



Fundamental Planning
Wholesale Delivery & Operations

Telstra Publication- Specification

TEBA: Installation of POI-DDF Tie Cables

Issue 7, 30th April 2008

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1 PURPOSE

The purpose of this Specification is to define the standards for the cable that connects an Acquirer's POI frame (located in the Acquirer's TEBA rack or POI area) to the Telstra DDF in the same building. The POI-DDF Tie Cable is used for interconnection purposes between the Acquirer's and Telstra's networks (ie. interconnecting transmission, switchport services, etc...).

2 SCOPE

This Specification applies to all instances of cabling from a Telstra DDF to a POI frame located in the Acquirer's TEBA rack or POI area, where the TEBA Rack or POI area is housed in the same building as the Telstra DDF.

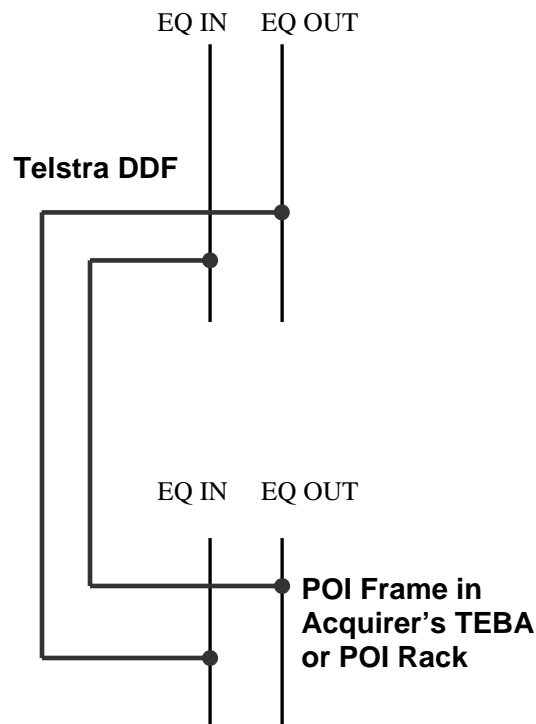
3 GENERAL

A POI-DDF Tie Cable can only be installed once Telstra has approved a TEBA Design and Construction Proposal. For more information regarding the processes for submitting TEBA Design and Construction Proposals, please refer to the following URL:

<http://telstrawholesale.com/products/facilities/teba.htm>

The cabling for the POI-DDF Tie Cable must be installed as illustrated below. Separate cables shall be used for each direction of transmission (ie: IN/OUT).

NOTE: EQ IN, EQ OUT cabling is transposed in the diagram below.



4 MOBILE PHONE USAGE ON TELSTRA PREMISES

There are restrictions relating to the use of mobile phones in Telstra exchanges. Refer to the following document which details these restrictions (refer to the following URL for a copy of the document:

<http://telstrawholesale.com/products/facilities/teba.htm>

Policy 009709: Use of Mobile Phones in Exchanges and Transmission Sites.

5 POI-DDF TIE CABLE TYPE

POI-DDF Tie cables shall be installed using screened twisted pair cable that meets AS 3080. Generally, 16 or 32 pair cable is to be used, with the shield earthed at one end of the cable only (ie: at the Telstra DDF or the POI frame in the customer's TEBA rack).

POI-DDF Tie Cables should be installed in 64 pr increments (ie: 64 prs IN, 64 prs OUT).

6 CABLE CROSSTALK - SEPARATION AND SHIELDING

Equipment OUT and Equipment IN transmission directions must be housed in separate cables. Similarly, running these cables adjacent to each other for long distances should be avoided. In all 2 Mbit/s cables an overall screen is provided in order to reduce the NEXT (Near End Crosstalk) influence from adjacent cables.

7 DDF BLOCK ALLOCATION

The Acquirer must confirm the location of the applicable DDF Frame with Telstra when preparing the TEBA Design and Construction Proposal. The Acquirer should contact the applicable Telstra Nominated Technical Contact, whose details are provided to the Acquirer in response to a TEBA Preliminary Study request.

The Telstra Nominated Technical Contact should identify which DDF Frame the Tie Cable should be terminated on. At some exchanges the Acquirer will be instructed to use the next available block position on the DDF Frame, whilst at other exchanges the Acquirer will be provided with specific Vertical and Block locations that must be used.

NOTE: When the Acquirer contacts the Telstra Nominated Technical Contact to confirm the DDF Frame location, **the Acquirer should also obtain the Node Code for the DDF Frame.** This Node Code is used in the designation and labelling of the DDF block (refer to Section 10), and must also be included in the Form to be submitted in Attachment A.

8 TERMINATION OF CABLE AT TELSTRA DDF

For termination of cables on Telstra DDFs, this document should be used in conjunction with the following documents (refer to the Facilities Access Webpage - <http://telstrawholesale.com/products/facilities/teba.htm>

- TM00099-A01 Digital Distribution Frames;

Unless otherwise directed by Telstra, Krone blocks are to be used for termination of the POI-DDF cable at the Telstra DDF frame (Krone DDF blocks may not be the appropriate at every exchange, as DDFs in some exchanges are designed for Madison blocks instead of Krone).

There are separate verticals for each direction of transmission (ie: in general, the left DDF vertical is for EQ IN blocks, and the right DDF vertical is for EQ OUT blocks – refer to the verticals at the actual site to ensure IN and OUT blocks are positioned consistently with other blocks on the DDF). There are generally 2 sides on a Telstra DDF – a horizontal and vertical side.

It is recommended that the Vertical side of the DDF should be used for POI-DDF Tie Cable blocks (unless all other POI-DDF Tie cables have already been terminated on the Horizontal side of the frame).

8.1 Cable stripping

A stripping pull ripcord is provided in all twisted pair cables for stripping of the cable (ie. no special tools are required). Simply pull the ripcord to a pre-marked position on the cable sheath and carefully remove with scissors.

8.2 Cable Butting

Butt the cables before they enter onto the horizontal bar to ensure the sheath does not exceed it's bending radius. Insert spaghetti tubing over the drain wire.

Individually sleeve the cables in suitable size plastic tubing. The 30mm plastic sleeving supplied with the DDF kit is the preferred method of protecting the individual pairs from becoming tangled with jumpers. In some situations the large sleeving is impractical and a smaller sleeve can be used. The aim of the tubing is to protect the individual pairs and prevent them becoming tangled with jumpers.

Extend the tubing over the cable butt (as shown in Fig 2), to ensure the screen does not come into contact with other cable screens or the metallic framework of the DDF and cause earth loop problems. Heat-shrink should be used to secure the plastic sleeving to the multi-pair

cable. Extend the tubing along the horizontal bar and through the grommet into the rear of the DDF block. Secure to the horizontal bar with Velcro straps or cable ties.

Periodic checks of termination tools are required to ensure correction termination technique is achieved. Termination tools shall be discarded after the prescribed maximum operations (5000). This sensor tool has a two-position sensor release clip. The sensor release clip shall be in the down position (clip towards the outside edge of the tool) when terminating. When double terminations are required the sensor release clip must be in the opposite position for the second termination.

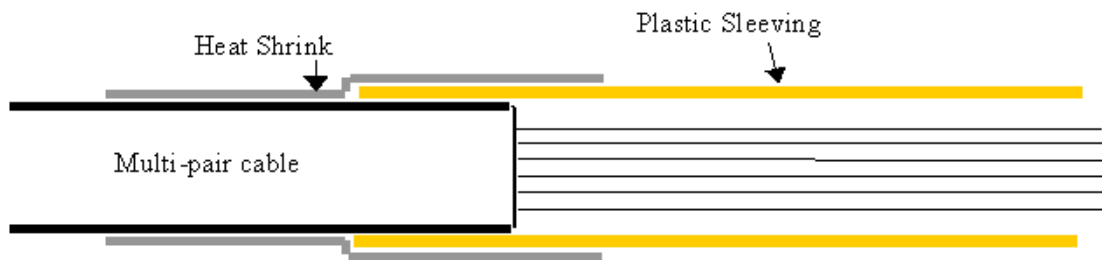


Figure 2. Suggested method of butting and sleeving cables

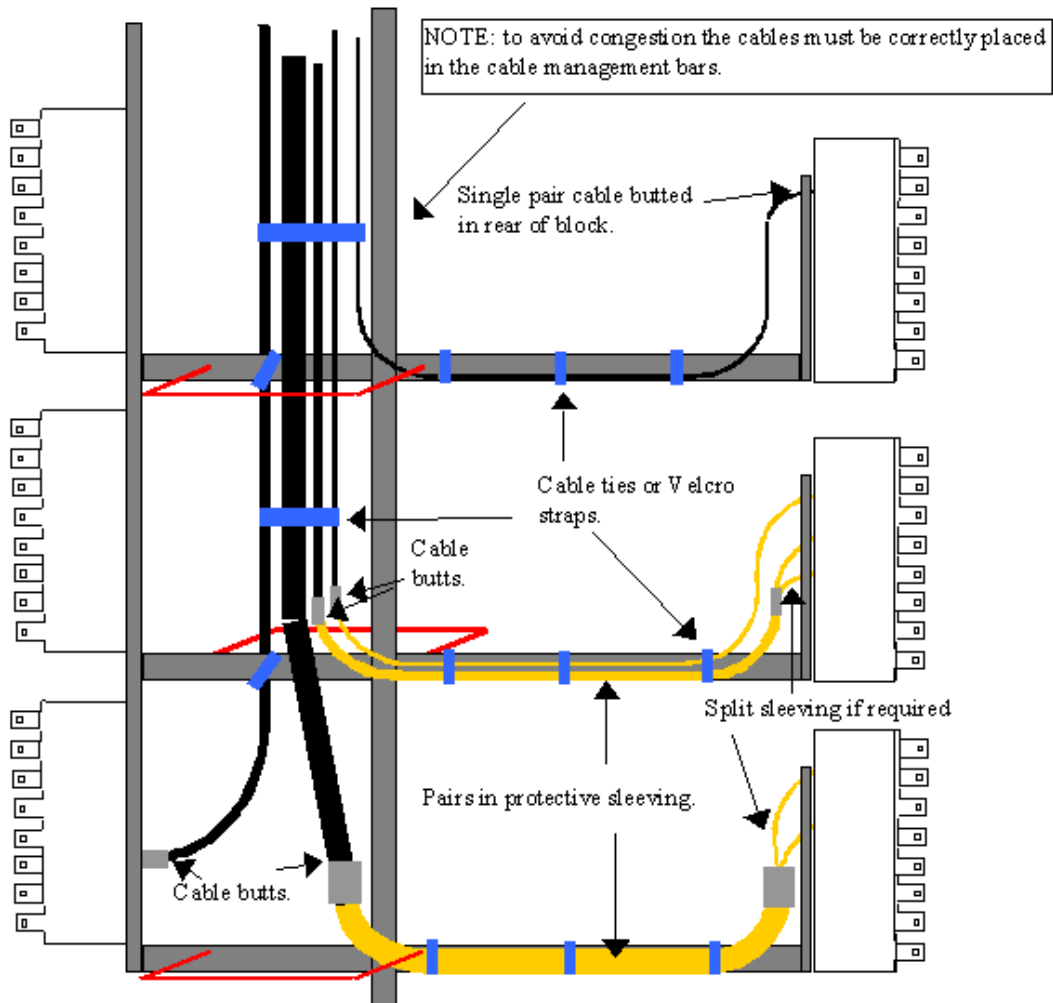


Figure 3.

8.3 Wire Colour Codes

The Acquirer must ensure that the Colour Codes as described in Attachment B are adhered to when terminating POI-DDF Tie Cables. Please note that pairs are terminated on DDF blocks from the top down.

9 TERMINATION OF CABLE ON ACQUIRER'S POI FRAME

The Acquirer is to terminate the POI-DDF Tie Cable on a POI Frame in its TEBA rack (or POI area), consistent with the ACA Wiring Rules.

Telstra has an ongoing maintenance responsibility for the POI-DDF Tie Cable, so Krone blocks are recommended for termination on the Acquirer's POI Frame.

10 DESIGNATION & LABELING OF POI-DDF CABLES

The designation of the POI-DDF Tie Cable is comprised primarily of 2 four-alphanumeric Codes. These Codes represent:

- i) the unique code of the Telstra DDF; and
- ii) the unique code of the Acquirer's TEBA or POI equipment racks.

NOTE: The Acquirer should obtain:

- i) the Node Code for the Telstra DDF from the Telstra Nominated Technical Contact as described in Section 7 above; and
- ii) the Node Code for the Acquirer's TEBA/POI Rack from the Telstra Nominated Technical Contact when preparing the TEBA Design & Construction Proposal for the installation of the Tie Cable.

These Node Codes are used as a basis for the Tie Cable Designation/Labeling (see example below). **NOTE:** the Node Codes are in alphanumeric order in the Cable Designation (ie: EXHC is first in the cable designation ahead of FXRX):

G EXHC FXRX 01,02 /1-64

where:

- i) G the standard code to represent a Tie Cable;
- ii) EXHC: the Node Code of the exchange DDF;
- iii) FXRX: the Node Code for the Acquirer's TEBA or POI equipment Rack;
- iv) 01, 02: represent the cables 01 and 02 – one for the IN cable pairs and one for the OUT cable pairs; and
- v) 1-64: represent the number of cable pairs in the tie cable (ie: 64 pairs).

(**NOTE:** as the Node Codes for the DDF Frame and the Acquirer's TEBA/POI Rack are to be placed in alphanumeric order, there may be some cases where ii) and iii) above are in the reverse order)

The cable pairs for the DDF-POI Tie cable are Global starting from 1 (max 999 pairs). Consequently, if the Acquirer is intending to install another 64 pair Tie Cable in addition to an existing 64 pair Tie Cable, the designation of the new cable pairs should continue from the last pair of the existing Tie Cable.

For example, if there was an existing Tie Cable with a designation of:

G EXHC FXRX 01, 02 / 1-64

and an additional 64 pairs were to be installed, these new cable pairs should be designated as:

G EXHC FXRX 01, 02/65-128.

The Tie Cable Designation as described above is used on the DDF block labels. In addition to the Tie Cable Designation, the Acquirer needs to include details of the DDF Vertical, Block and Pair number, the Transmission direction (ie: EQ IN or EQ OUT), and the location of the far-end block location on the DDF block labels.

The following examples detail labelling requirements for a the POI-DDF tie cable on the Telstra DDF Block (cross-reference with the illustration below – each 3 lines of the label represent a single termination strip on the DDF block):

FROM: Floor 4, Suite 186, Vin2, Block A

TO: Floor 3, Suite 262, Vout 32, Block G

Line 1	EQ IN TELCO POI-DDF TIE CABLE	Indicates the transmission direction (ie. EQ IN or EQ OUT), name of Acquirer company (eg: Telco) and description of Tie Cable type (ie: POI-DDF Tie Cable).
Line 2	065- 072	Indicates the cable pair numbers terminated on that termination strip (appears on every termination strip for each DDF block – see illustration below)
Line 3	A1 - A8	Indicates the block and pair position on the block (appears on every cable termination strip on each block). Block A is the top block on the DDF Vertical – the second Block is labelled as block B and so on....
Line 4	G EXHC FXRX 01	The designation of the Tie Cable for the EQ IN DDF Block (appears on second termination strip only of each DDF block). The EQ OUT DDF Block will be designated as the 02 cable.
Line 7	TO : 3/262/32/G	Far end DDF terminating point of the Tie Cable: Floor/Suite/(Vout/Block) or (Rack). (appears on third termination strip only of each block)

Similar labelling for the opposite direction (ie. EQ OUT) will apply to the adjacent DDF block.

The following diagrams illustrate the DDF block labelling as described above (for a block of 8 X 8 pr termination strips in the EQ IN direction):

Example label for Krone DDF Blocks

EQ IN TELCO POI-DDF TIE CABLE							
65	66	67	68	69	70	71	72
A1	A2	A3	A4	A5	A6	A7	A8
G EXHC FXRX 01							
73	74	75	76	77	78	79	80
A9	A10	A11	A12	A13	A14	A15	A16
TO : 3/262/32/G							
81	82	83	84	85	86	87	88
A17	A18	A19	A20	A21	A22	A23	A24
89	90	91	92	93	94	95	96
A25	A26	A27	A28	A29	A30	A31	A32
97	98	99	100	101	102	103	104
A33	A34	A35	A36	A37	A38	A39	A40
105	106	107	108	109	110	111	112
A41	A42	A43	A44	A45	A46	A47	A48
113	114	115	116	117	118	119	120
A49	A50	A51	A52	A53	A54	A55	A56
121	122	123	124	125	126	127	128
A57	A58	A59	A60	A61	A62	A63	A64

← **1st Termination Strip**

← **2nd Termination Strip**

← **3rd Termination Strip, etc...**

11 CONTINUITY TESTING

Continuity testing will reveal cables run to the wrong location, open circuit terminations, or open circuit ground paths, and short circuit connectors.

Continuity testing of POI-DDF Tie Cable pairs shall be undertaken as part of the cable installation project. Continuity testing should be performed using a suitable continuity tester (buzzer).

12 DATA BASES

The POI-DDF Tie Cable details need to be loaded into Telstra databases (DBoRs).

NOTE: There is a 2-step process in implementing database updates:

STEP 1: When the Acquirer completes the installation of the POI-DDF Tie Cables, the Acquirer should complete the form in Attachment A and submit it to the Telstra Data Centre (TDC) at the email address cdc.new.tech@team.telstra.com (this will load the preliminary Tie Cable data into Telstra's databases); and

STEP 2: When the Joint Completion Inspection has been successfully completed, the Telstra will change the status of the Tie Cable data in Telstra's databases to "Active".

A Joint Completion Inspection (JCI) can be arranged by submitting a JCI Request Form. Refer to the Facilities Access webpage to obtain the TEBA JCI form:
<http://telstrawholesale.com/products/facilities/teba.htm>

13 PROCESS FLOWCHART

The flowchart in Attachment C provides a summary of the processes that need to be followed to arrange the installation of POI-DDF Tie Cables.

14 FREQUENTLY ASKED QUESTIONS

I need to arrange the installation of a POI-DDF Tie cable – where do I start?

You need to start by submitting a TEBA Preliminary Study form to Telstra. On this form you need to state that you intend to install some POI-DDF Tie Cables, provide details of the number of cables/pairs to be installed, how many DDF blocks are required (64prs per block) and if you intend to install a new rack. The Preliminary Study form, and details of the TEBA Ordering processes are available at the facilities Access webpage:
<http://telstrawholesale.com/products/facilities/teba.htm>

How do obtain the Node Code for our TEBA/POI Rack?

Contact the Telstra Nominated Technical Contact. This person's details are provided to you in the TEBA Preliminary Study response.

How do I obtain a DDF block allocation?

Contact the Telstra Nominated Technical Contact. This person's details are provided to you in the TEBA Preliminary Study response.

How do I obtain the DDF Node Code?

When you contact the Telstra Nominated Technical Contact to obtain the DDF Block allocation, also request the DDF Node Code.

How do I label the DDF blocks?

Refer to Section 10 of this document.

Now that I have installed the POI-DDF Tie cable, what do I need to do?

Firstly you should complete the form in Attachment A and send it to the Telstra TDC (this will load the initial tie cable details into Telstra's databases).

You should also submit a request for a TEBA Joint Completion Inspection (JCI) to ensure the POI-DDF Tie Cable has been correctly installed and labelled. The JCI form can be obtained from the Facilities Access webpage: <http://telstrawholesale.com/products/facilities/teba.htm>

Once the JCI is successfully completed, the data in Telstra's databases can be updated to "Active" (you cannot have any services connected to the POI-DDF Tie cable until this has occurred).

Who can I contact for any other enquiries ?

In the first instance you should contact the Telstra Wholesale Delivery & Operations(WD&O) group (email: f0510607@team.telstra.com), otherwise you can contact the Telstra Nominated Technical Contact (this person's details are provided to you in the TEBA Preliminary Study response).

15 REFERENCES

REF	DOCUMENT NUMBER	TITLE
[1]	TM00099 A01	Distribution Frames (Digital Distribution Frames)
[2]	TM00182 A02	Distribution Frames- Conventional Main Distribution Frames
[3]	TM00182 A03	Distribution Frames- QM Distribution Frames

16 DEFINITIONS

TERM	DEFINITION
TDC	Telstra Data Centre
DBoR	DataBase of Record
D&CP	Design and Construction Proposal
DDF	Digital Distribution Frame (2Mb DDF is used for POI-DDF Tie Cables)
POI	Point of Interconnect
TEBA	Telstra Equipment Building Access (ie: Facilities Access to telstra Equipment Buildings)
TRAC	Transmission Recording and Commissioning system

17 DOCUMENT CONTROL SHEET

Contact for Enquiries and Proposed Changes

If you have any questions regarding this document contact:

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 Fax: (02) 9397 2173

If you have a suggestion for improving this document, complete and forward a copy of *Suggestions for Improvements to Documentation* (form 000 001-F01).

Issue No	Issue Date	Nature of Amendment
1	1 January 2003	First Draft
2	15 December 2003	Updated Draft
3	1 January 2004	New DBoR update process with CDC and other updates
4	15 November 2004	Preference that DDF blocks be located on Vertical Side of frame, new URLs for tw.com site inserted.
5	25 July 2005	Removal of Madison blocks from preferred DDF block type
6	6 Dec 2006	Removal of Step 2 of the Process. Telstra will claim pairs in TRAC
7	30 April 2008	Wholesale URL links updated

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ATTACHMENT A: POI-DDF TIE CABLE DATA ENTRY SHEET

To be submitted to Telstra Data Centre (TDC):

Email: **cdc.new.tech@team.telstra.com**

For enquiries contact: 02 9397 2983

To the TDC – Please use the information below to load the initial POI-DDF Tie Cable Data into TRAC. Once a Joint Completion Inspection of this Tie Cable has been successfully completed, Telstra will arrange the data to be claimed (ie: so the pairs can be made available for use).

Acquirer to complete the following:

Acquirer Company Name: _____

Contact person for this request:

Name: _____

Phone: _____

Fax: _____

Exchange Name: _____ State: _____

Acquirer TEBA / POI Rack:

i) Floor: _____ Suite or Row: _____ Rack: _____

ii) Node Code for TEBA / POI Rack: ____ ____ ____ ____ (eg: ABCD)

ATTACHMENT A: POI-DDF TIE CABLE DATA ENTRY SHEET (cont'd)

Telstra DDF Frame:

- i) Floor: _____ Suite or Row: _____
- ii) Node Code of DDF Frame: ____ ____ ____ ____ (eg: EXHX)
- iii) Position of DDF Blocks:

Verticals: ____ & ____ Block/s: _____ Pairs: ____ to ____

(NOTE: Vertical and Block details must be provided)

Number of new TX/RX (IN/OUT) pairs installed: _____ pairs

Designation of new Tie Cable pairs (refer to Section 10):

G _____ / _____ Pairs _____ to _____

(eg: G ABCD EXHX 01/02, Pairs 67-128)

Does the Acquirer have existing Tie Cable pairs between its TEBA / POI Rack and the Telstra DDF? YES / NO

If Yes, how many existing TX/RX (IN/OUT) pairs are installed: _____ prs

TDC to complete the following (and return to Acquirer):

Initial Tie Cable data has been loaded into Telstra's DBoR (TRAC):

YES / NO (please circle)

TDC Contact Name: _____

Date: _____

ATTACHMENT B: WIRE COLOUR CODE

Cable Element Number - (Pair)	Wire 1 (a) (mate)	Wire 2 (b)
1	White	Blue
2	White	Orange
3	White	Green
4	White	Brown
5	Red	Blue
6	Red	Orange
7	Red	Green
8	Red	Brown
9	Black	Blue
10	Black	Orange
11	Black	Green
12	Black	Brown
13	Yellow	Blue
14	Yellow	Orange
15	Yellow	Green
16	Yellow	Brown

Table 10 Cable conductor colour code.

The twisted 16 pair cable has its own specific colour coding, pair arrangement (cable stranding) and whipping colours.

Termination Strip Whipping Arrangements on DDF Block

Unit 1:	Pairs 1 - 8 Blue
Unit 2:	Pairs 9 - 16 Blue
Unit 3:	Pairs 17 - 24 Orange
Unit 4:	Pairs 25 - 32 Orange
Unit 5:	Pairs 33 - 40 Green
Unit 6:	Pairs 41 - 48 Green
Unit 7:	Pairs 49 - 56 Brown
Unit 8:	Pairs 57 - 64 Brown

Termination Strip whipping arrangements.

ATTACHMENT C: PROCESS FLOWCHART

