



CSA Service Appendix - Schedule 2

Service Description for Baseband (non FTTH)

1. Introduction

- 1.1 Baseband (non FTTH) Service is a commercial service provided by Chorus to the Service Provider on the terms set out in the Chorus Services Agreement (“CSA”).
- 1.2 Baseband (non FTTH) Service is a service to enable the delivery of PSTN analogue telephony services over a range of access technologies from the End User to a Service Provider’s handover point.

2. Interpretation

- 2.1 References to clauses or sections are references to clauses or sections in this Service Description unless expressly provided otherwise. The definitions set out in section 1 of the General Terms and section 3 of the Special Terms apply to this Service Description unless expressly provided otherwise.
- 2.2 References to the Price List, Operations Manual and Special Terms are references to those documents under the same Service Appendix as this Service Description. References to the Service Appendix are references to the Service Appendix for the Baseband (non FTTH) Service.

3. Baseband

- 3.1 Baseband (non FTTH) Service is categorised into the following product variants;
 - 3.1.1 **Baseband Copper:** Where a copper path exists between the end user’s ETP and the service provider’s handover point in the local Exchange. The copper path can be directly from the local Exchange to the ETP or transverse via a Distribution Cabinet.
 - 3.1.2 **Baseband IP:** Where a copper path exists between the end user’s ETP and a Chorus DSLAM. At the DSLAM voice frequencies are converted into a bitstream service and delivered to the service provider on a Virtual LAN at a Handover Connection:
 - (i) at the first Data Switch; or
 - (ii) backhauled using the Baseband IP Tail Extension option to a Chorus Point of Interconnection (POI) in the regional service area of which there are five; Northland Auckland, Central North Island, Lower North Island, Upper South Island and Lower South Island (Chorus Regions).Baseband IP is intended to replace Baseband PCM over time and provides a stepping stone from switched voice to Voice over IP.
 - 3.1.3 **Baseband PCM:** Where a digital transmission system (mostly Pulse Code Modulation) is used between the local Exchange and the Distribution Cabinet. Voice frequencies from an End User’s ETP are multiplexed on to the digital transmission system and delivered to the service provider’s handover point.
 - 3.1.4 **Baseband Remote:** Where pair gain, Customer Multi Access Radio (CMAR) or Country Set systems or alternative technology are used to provide connection to the End User’s ETP when there is no end to end copper path.

4. Exclusions

- 4.1 The Baseband (non FTTH) Service specifically excludes:
- 4.1.1 access to, or interconnection with, Chorus' Local Loop Network at any cabinet or at any distribution point apart from a MDF;
 - 4.1.2 Chorus' UCLL, UCLL Co-location and Backhaul Services (UCLL Co-location and UCLL Backhaul Services), Sub-Loop UCLL Services, and Sub-Loop Extension Services which are optional additional services;
 - 4.1.3 Chorus' UCLF, UCLF Co-location and Backhaul Services (UCLF Co-location and UCLF Backhaul Services) which are optional additional services;
 - 4.1.4 Chorus' Broadband Service which is an optional additional service;
 - 4.1.5 Chorus' Exchange Space Service which is an optional additional service;
 - 4.1.6 Chorus' Commercial Backhaul Service which is an optional additional service;
 - 4.1.7 Chorus' provision or maintenance of End User premises wiring;
 - 4.1.8 configuration, monitoring, operation, support or maintenance of Service Provider's or End Users' applications, equipment or networks;
 - 4.1.9 configuration or on-going support of the End User's applications;
 - 4.1.10 control of access to the Baseband Service end points through any network beyond the Baseband Service handover points;
 - 4.1.11 any active analogue telephone service (*POTS*) on the same MPF and any service over the MPF such as lawful intercept and 111 service;
 - 4.1.12 installation of new copper loops between the Exchange and an End User's premises or installation of new service leads at an End User's premises;
 - 4.1.13 Chorus' Commercial Handover Connection Service which is an optional additional service; and
 - 4.1.14 Access Seeker Voice Connections.

5. Service Provider Responsibilities

- 5.1 The Service Provider responsibilities are detailed in the General Terms and Operations Manual.
- 5.2 Pending Chorus' notification of its requirements which replace PTC 190 and PTC 200:
- 5.2.1 Service Providers must comply with PTC 190 Requirements for 0 - 4 kHz systems for connection to metallic copper and PTC 200 Requirements for Connection of Customer Equipment to Analogue Lines.
 - 5.2.2 If impairment or interference to another service is caused by any Service Provider equipment that breaches PTC 190 or PTC200 then the appropriate Baseband Services will be suspended and the Service Provider will be liable for any investigation costs;
 - 5.2.3 Any reference in the PTC 190 Requirements and PTC 200 Requirements to Telecom's Network or equipment shall be read as references to Chorus' Network and Chorus Owned Equipment respectively.

- 5.3 On receipt of notification by Chorus of its requirements which replace PTC 190 and PTC 200 (Replacement Requirements):
- 5.3.1 Service Providers must comply with the Replacement Requirements for 0 - 4 kHz systems for connection to metallic copper and for Connection of Customer Equipment to analogue lines.
 - 5.3.2 If impairment or interference to another service is caused by any Service Provider equipment that breaches the Replacement Requirements then the appropriate Baseband Services will be suspended and the Service Provider will be liable for any investigation costs.
- 5.4 All Service Provider Equipment installed within an Exchange must be electrically safe, meet standard EMC emissions requirements and be correctly earthed; The equipment will be required to comply with New Zealand Electrical Standards which can be found at www.standards.co.nz or www.eeca.govt.nz, EMI and RFI standards which can be found at <http://www.rsm.govt.nz>.

6. Components of the Service and associated Charges

- 6.1 For detailed information on the components of the Service and associated Charges see the Price List and the Operations Manual.

7. Service Levels

- 7.1 Applicable Service Levels are set out in the Special Terms.

Baseband Variant	Delivery Technology	Description	RSP Handover Interface	Possible to have Broadband on the copper pair	Locale
Baseband Copper	Copper cable pair	Copper path from ETP to the local Exchange. Includes cabinetised lines, so that DSL can be supplied at a Distribution Cabinet alongside an Exchange based Voice Service.	2-wire	Yes	Exchanges Distribution Cabinets with a copper path available to the Exchange
		Pair gain from the Exchange or Distribution Cabinet to the ETP where an additional derived circuit is provided. Known as 0+2 and 1+1 pair gain systems.	2 wire	No	Exchanges Distribution Cabinets with a copper path available to the Exchange
Baseband PCM	Digital transmission system on copper or fibre	Voice multiplexers that concentrate 12 to 30 analogue voice channels onto G.703 E1 interfaces. NEC NEAX specific channel associated signalling (CAS) signalling.	2-wire G.703 E1	Yes	PCM fed Cabinets and End User premises
		An ISDN multiplexer that concentrates up to 12 ISDN BRA circuits onto E1 interfaces and then de-multiplexes back to 12 ISDN BRA circuits	ISDN BRA	No	Distribution Cabinets and Exchanges with ISDN multiplexer equipment
Baseband IP	VoIP	An ISAM-hosted Voice card that converts analogue voice into a session initiation protocol (SIP) bitstream service delivered to a Shared Handover Connection	Virtual LAN per End User port – E-NNI	Yes	Exchanges and Distribution Cabinets with ISAM FD equipped with NPOTS-C cards
Baseband Remote	Pair Gain	Derived pair systems that allow a copper pair to service multiple sites (1, 2, 8, and 15). Typically used where copper supply is limited.	2-wire 4-wire	No	Generally rural areas
	CMAR	Central Multi-Access Radio used to supply analogue telephony services where there is not a complete copper cable from the Exchange to the premises.	2-wire 4-wire G.703 E1	No	Generally rural areas
	Country Sets	1 or 2 channel, analogue, point to point voice only radio link.	2-wire 4-wire	No	Generally rural areas

8. Baseband Copper

Introduction

- 8.1 Baseband Copper is a product variant of the Baseband Service (and its associated functions, including the associated functions of Chorus' operational support systems) that enables access to, and interconnection with, the low frequency (being the frequency band between 300 and 3400 Hz) in Chorus' copper Local Loop Network (including any relevant line in Chorus' Exchange or Distribution Cabinet) that connects the End User's building (or, where relevant, the building's distribution frame) to the handover point in Chorus' local Exchange. Baseband Copper is available from a local Exchange whether or not the Exchange is directly connected to a Distribution Cabinet. Baseband Copper is further described below and in Appendix 1.
- 8.2 As part of Baseband Copper (as described in clause 8.8 below), the Service Provider also has the option to purchase the Remote Tie Cable Service (as described in clause 8.10 below) and various ancillary services (as described in the Operations Manual and the Price List). If a Service Provider wishes to provide direct current over the line for the purpose of supporting an analogue phone service, Baseband Copper must be made capable of providing the direct current required to power the operation of a standard analogue telephone.
- 8.3 Baseband Copper is an input service which the Service Provider can use as a building block to provide services to End Users. The Service Provider can combine Baseband Copper with network transport services offered by Chorus (or with the Service Provider's own network or wholesale network transport services provided by other providers) and service level functionality to deliver services to End Users.
- 8.4 Baseband Copper is only available to a Service Provider where it will be the only service taken over a particular copper line, or where the only other service being taken by a Service Provider in conjunction with Baseband Copper over the relevant line is a Broadband Service (supplied by Chorus). Baseband Copper cannot be supplied to a Service Provider over a copper subscriber line where the UCLL Service or Sub-loop Service is also being supplied by Chorus.
- 8.5 Except where Baseband Copper is provided by a MPF using pair gain, Baseband Copper can also be combined with Broadband in the local Exchange or with Broadband from a Distribution Cabinet over the same copper pair as shown in Figure 1 and Figure 2 at Appendix 1. The Baseband Service is only available to the Service Provider where it will be the only service taken over a particular copper line, or where the only other service being taken by the Service Provider in conjunction with the Baseband Service over the relevant line is a Broadband Service (supplied by Chorus).

Geographic availability

- 8.6 Baseband Copper is only available on Exchange-based lines and on those lines which are connected to a Distribution Cabinet which are notified by Chorus to Service Providers in the Baseband Availability file on its website (www.chorus.co.nz/baseband) in accordance with clause 15 of the Operations Manual.

Tenure

- 8.7 In accordance with clause 15 of the Operations Manual, Chorus will notify Service Providers when the Baseband Copper is not available either on a standalone basis or in conjunction with the Broadband Service on certain Exchange-based lines and on certain lines which are cabinetised. In addition, Chorus will also notify Service Providers of the reasons for non-availability which may extend to include the following:
- 8.7.1 the absence of equipment catering for the Broadband Service at the Distribution Cabinet, or the physical hard wiring of the broadband equipment to the voice equipment, makes the provision of Baseband Copper in combination with the Broadband Service unfeasible;
 - 8.7.2 the Distribution Cabinet, which does not have a copper connection to the local Exchange, does not support Baseband Copper;

- 8.7.3 the copper feeder between the local Exchange and the Distribution Cabinet, which is only used as an access copper bearer for the equipment in the Distribution Cabinet, does not support Baseband Copper;
- 8.7.4 certain other engineering purposes (eg order-wire) prevent the delivery of Baseband Copper from the Distribution Cabinet;
- 8.7.5 the Distribution Cabinet which has limited capacity on the copper feeder does not support Baseband Copper.

Description

- 8.8 Baseband Copper consists of provision of an MPF for access to End Users. For the avoidance of doubt Baseband Copper is supplied between Chorus' local Exchange and the End-User's ETP. The specification of the MPF is set out in Appendix 4.
- 8.9 To use an MPF a Service Provider must have the capability to access and interconnect with it, whether by co-locating Service Provider Equipment at the relevant local Exchange, or otherwise. "Service Provider Equipment" in this context is equipment used exclusively for providing:
 - 8.9.1 Access to, and interconnection with Baseband Copper ; or
 - 8.9.2 Backhaul for Baseband Copper.
- 8.10 Service Providers may co-locate Service Provider Equipment at a local Exchange using Chorus' co-location services which are separate from Baseband Copper. Where Service Provider Equipment is not located at the local Exchange at which the relevant MPF starts, a Tie Cable Service is available consisting of the provision of a Handover Distribution Point (HDP) block on the local Exchange MDF, and a Remote Tie Cable (supplied either by Chorus or the Service Provider) that meets Chorus' cable specification (see the list of cable specifications for the UCLL Service or Baseband Copper on Chorus' website www.chorus.co.nz) from that block to a point outside and adjacent to local Exchange entry point. Regardless of whether the tie cable is supplied by Chorus or the Service Provider, Chorus will install the Remote Tie Cable within the local Exchange and terminate it on the HDP block.
- 8.11 Subject to the frequency band limitation specified in clause 8.1, there is no restriction on the type of service or application offered over the MPF by the Service Provider provided the technology used to deliver the service or application complies with the Interference Management Plan. This may in practice restrict the service or application offered by Service Providers to End Users in some circumstances.
- 8.12 The MPF extends from the ETP, at an End User's site, through Chorus' Local Loop Network, to the HDP block on the MDF in a local Exchange. The MPF may transit a Distribution Cabinet.
- 8.13 Baseband Copper includes service assistance provided by Chorus (see the Operations Manual for details) as follows:
 - 8.13.1 automated facility for Service Provider Baseband Copper orders and fault notifications;
 - 8.13.2 an automated prequalification tool to assist the Service Provider in determining the location and estimated characteristics of the MPF;
 - 8.13.3 manual measurements of actual MPF electrical characteristics if requested by the Service Provider; and
 - 8.13.4 various other ancillary services as described in the Operations Manual and in the Price List.
- 8.14 Baseband Copper implementation activities carried out by Chorus include:
 - 8.14.1 provisioning of the MPF;
 - 8.14.2 where a Service Provider's Equipment is not located at the relevant local Exchange, and the Service Provider is taking up the Remote Tie Cable Service referred to at clause 8.10 above;

- (i) provisioning of a HDP block on the local Exchange MDF;
- (ii) identification of the route that the Tie Cable will take between the HDP block on the MDF and the point outside and adjacent to Chorus' local Exchange entry point and installation of the Remote Tie Cable including installation of any required cable racks and trays to support the Remote Tie Cable; and

8.14.3 handover to the relevant Chorus assure team for ongoing service management.

8.15 Baseband Copper can be used to support the ISDN Basic Rate service with 2B + D channels (Basic Rate ISDN). Service Providers can use frequencies from 0 – 80 kHz when connected to Baseband Copper. ISDN Basic Rate is incompatible with Broadband and is only supported on standalone Baseband Copper without any derived systems for pair gain.

Service Provider Handover Point

8.16 Baseband Copper is delivered from the MPF side of the HDP block on the MDF. This does not preclude the connection of Baseband Service to Chorus equipment between the local Exchange entry point and the HDP block.

8.17 Where a Service Provider takes Baseband Copper in conjunction with the Broadband Service, the low frequency connection that forms Baseband Copper will traverse the tie cables between the MDF and the DSL splitter before appearing at the HDP block.

8.18 To avoid doubt, any Tie Cables used to connect to and from the DSL splitter will not be charged as tie cables connecting the HDP block to the Service Provider's Equipment.

End User Handover Point

8.19 Baseband Copper is delivered to the ETP at the End User's building.

8.20 Baseband Copper excludes premises wiring. The Service Provider or the End User will be responsible for customer premises equipment (CPE) and wiring at the End User's site beyond the ETP. The Service Provider should, but is not obligated to, ensure that TelePermit requirements (available at www.telepermit.co.nz) and the Code of Practice for Residential and Small Office Premises Wiring (available at www.tcf.org.nz/premwiring) are adhered to.

Telephone services

8.21 The Service Provider will be responsible for End User requirements related to the telephone service that includes items such as numbering, emergency services contact, call signalling, call transportation and value added services, such as, call diversion, caller number display, messaging, etc.

9. Baseband PCM

Introduction

9.1 Baseband PCM is designed so that Service Providers can provide a Voice Service from their own local Exchange based equipment over a copper pair to the End User.

9.2 Baseband PCM is only available to a Service Provider where it will be the only service taken over a particular copper line, or where the only other service being taken by a Service Provider in conjunction with Baseband PCM over the relevant line is a Broadband Service (supplied by Chorus). Baseband PCM cannot be supplied to a Service Provider over a copper subscriber line where the UCLL Service or Sub-loop Service is also being supplied by Chorus.

9.3 Except where Baseband PCM is provided using ISAM FD equipment using NPOTS-C cards, Baseband PCM can also be combined with Broadband from a Distribution Cabinet over the same copper pair as shown in Figure 4 of Appendix 2. The Baseband Service is only available to the Service Provider where it will be the only service taken over a particular copper line, or where the only other service being taken by the Service Provider in conjunction with the Baseband Service over the relevant line is a Broadband Service (supplied by Chorus).

- 9.4 The Service Provider must have voice frequency equipment connected to the local Exchange capable of connecting to a derived 2Mbps bearer or a copper pair connection.
- 9.5 Baseband PCM can be used to support the ISDN Basic Rate service with 2B + D channels (Basic Rate ISDN). Service Providers can use frequencies from 0 – 80 kHz when connected to Baseband PCM. ISDN Basic Rate is incompatible with Broadband and is only supported on standalone Baseband PCM.
- 9.6 Baseband PCM is further described in Appendix 2.

Description

- 9.7 Individual copper pairs from End User's ETP are multiplexed on to a derived digital transmission system and delivered to the Service Provider's handover point either presented as a copper pair per connection or as a DTI G.703 E1 PCM interface for PCM systems or E1 interface for NPOTS-C TDM systems.
- 9.8 The presentation to the Service Provider will be based on the equipment present at the local Exchange.
- 9.9 For PCM systems digital presentation as a DTI G.703 E1 PCM interface the interface employs NEC NEAX specific CAS signalling that supports 30 connections.
- 9.10 For ISDN BRA systems 12 BRA lines are presented to a NEAX DLM module as copper lines after using a derived E1 system to extend 12 BRA copper lines from end users.
- 9.11 A derived systems is used where there are insufficient copper pairs to support End Users in a cabinet area with Voice Service from a local Exchange. In most cases the PCM system is hardwired to the DSLAM in the Distribution Cabinet due to cabinet space considerations and to improve Broadband provisioning.

Geographic availability

- 9.12 Baseband PCM is available from Distribution Cabinets with PCM systems from the local Exchange.

Tenure

- 9.13 Baseband PCM geographical coverage is limited to existing PCM geographical coverage listed in the Baseband Availability file on Chorus' website (www.chorus.co.nz/baseband) and no further PCM systems will be deployed. Baseband PCM will continue to be offered wherever PCM systems remain active and Chorus has sufficient PCM equipment. If Baseband PCM is the only variant available at an Exchange or Cabinet requested by the Service Provider and the Service Provider is unable to utilise the existing PCM equipment, then Chorus will work with the Service Provider to discuss possible solutions to enable it to obtain an alternative Baseband variant or similar voice input service.
- 9.14 If Chorus intends to implement a change to the geographical coverage areas as PCM equipment is retired, such change will be communicated in accordance with the Operations Manual.

Service Provider Handover Point

- 9.15 Where there is no VMUX in the local Exchange, Baseband PCM terminates on the Service Provider's side of the G.703 E1 PCM interface (coaxial cable or 120 ohm balanced copper pair). Where there is a VMUX in the local Exchange, Baseband PCM terminates on the Service Provider's side of the HDP block on the MDF in the local Exchange.

End User Handover Point

- 9.16 Baseband PCM is delivered over a copper interface to the ETP at the End User's site.
- 9.17 Baseband PCM excludes premises wiring. The Service Provider or the End User will be responsible for customer premises equipment (CPE) and wiring at the End User's site beyond the ETP. The Service Provider should, but is not obligated to, ensure that TelePermit requirements (available at www.telepermit.co.nz) and the Code of Practice for Residential and Small Office Premises Wiring (available at www.tcf.org.nz/premwiring) are adhered to.

Telephone services

- 9.18 The Service Provider will be responsible for End User requirements related to the telephone service that includes items such as numbering, emergency services contact, call signalling, call transportation and value added services, such as, call diversion, caller number display, messaging, etc.

10. Baseband IP**Introduction**

- 10.1 Baseband IP is designed so that Service Providers can provide a Voice Service from their own equipment. It provides a copper delivery to the End User and a SIP bitstream interface to the Service Provider.
- 10.2 Baseband IP is only available to a Service Provider where it will be the only service taken over a particular copper line, or where the only other service being taken by a Service Provider in conjunction with Baseband IP over the relevant line is a Broadband Service (supplied by Chorus). Baseband IP cannot be supplied to a Service Provider over a copper subscriber line where the UCLL Service or Sub-loop Service is also being supplied by Chorus.
- 10.3 Baseband IP can also be combined with Broadband in the local Exchange or with Broadband from a Distribution Cabinet over the same copper pair as shown in Figure 6 and Figure 7 of Appendix 3. The Baseband Service is only available to the Service Provider where it will be the only service taken over a particular copper line, or where the only other service being taken by the Service Provider in conjunction with the Baseband Service over the relevant line is a Broadband Service (supplied by Chorus).
- 10.4 A Service Provider must have equipment capable of supporting SIP bitstream at the handover point.
- 10.5 Baseband IP is further described in Appendix 3.

Baseband IP Extended option

- 10.6 Baseband IP Extended is the same service as Baseband IP but is a commercially offered option in areas where Baseband Copper is also available. An additional monthly rental charge applies, in all instances, and different transfer fees may apply as set out in clause 15 of the Operations Manual and service component 1.11 of the Price List.

Description

- 10.7 Baseband IP converts an analogue PSTN-compatible 2-wire voice frequency into a bitstream service that can be delivered to a service provider as Bitstream over a Virtual LAN on a Handover Connection. This can be at the first Data Switch or backhauled using Baseband IP Tail Extension to a Handover Connection at a Chorus Point of Interconnection (POI).
- 10.8 The Chorus POIs for Baseband IP are the same as for Enhanced UBA First Data Switches.
- 10.9 Chorus will provide a list of First Data Switches by Chorus Region on the Chorus website (see clause 10.20 below for list of Chorus Regions and www.chorus.co.nz/baseband)

Geographic availability

- 10.10 Chorus will provide a list of locations by Exchange and Distribution Cabinet where Baseband IP and Baseband IP Extended (in addition to Baseband Copper) are available on the Chorus website (www.chorus.co.nz/baseband) in a file called Baseband Availability suffixed with the month the file is produced.

Tenure

- 10.11 If Chorus intends to implement a change to the geographical coverage areas, such change will be communicated in accordance with the Operations Manual.

Service Provider Handover Point

- 10.12 Baseband IP terminates a Virtual Private LAN service (VPLS) on the Service Provider's Shared Handover Connection in the local Exchange with the First Data Switch or a remote HOC within that Chorus Region.
- 10.13 The HOC type utilised by Baseband IP is a Shared Ethernet Handover Connection. It can support High Speed Network Service (HSNS), Enhanced UBA (EUBA), Basic VDSL, Boost VDSL and Baseband IP. Please note that Boost VDSL cannot be provided over the same HOC as EUBA or Basic VDSL (see Boost VDSL Service Description for further details).
- 10.14 Baseband IP Tail Extension will be provided to deliver Baseband IP where the End User's address is outside the Baseband IP Coverage Area.
- 10.15 The Baseband IP Service excludes the Handover Connection service.

Baseband IP Tail Extension option

- 10.16 Baseband IP Tail Extension will be provided to have a Baseband IP service backhauled to a Handover Connection in another Coverage Area within the same Chorus Region.
- 10.17 Baseband IP Coverage Areas are the same as specified for Enhanced UBA.
- 10.18 The Tail Extension Step A has no charge and applies where the tail is delivered to a Handover Connection in the same Coverage Area.
- 10.19 Tail Extension Steps B, C and D apply where the tail is delivered to a Handover Connection in a different Coverage Area (see www.chorus.co.nz/baseband for details of Tail Extension Steps A to D).
- 10.20 There are 5 Chorus Regions;
 - 10.20.1 Northland Auckland
 - 10.20.2 Central North Island
 - 10.20.3 Lower North Island
 - 10.20.4 Upper South Island
 - 10.20.5 Lower South Island
- 10.21 For further information about Baseband IP Tail Extension steps see the Chorus website (www.chorus.co.nz/baseband)

End User Handover Point

- 10.22 Baseband IP is delivered over a copper interface to the ETP at the End User's site.
- 10.23 Baseband IP excludes premises wiring. The Service Provider or the End User will be responsible for customer premises equipment (CPE) and wiring at the End User's site beyond the ETP. The Service Provider should, but is not obligated to, ensure that TelePermit requirements (available at www.telepermit.co.nz) and the Code of Practice for Residential and Small Office Premises Wiring (available at www.tcf.org.nz/premwiring) are adhered to.

IP Addressing

- 10.24 Baseband IP only supports IPV4 addresses and the Service Provider will be responsible for End User IP Addressing.

Telephone services

- 10.25 The Service Provider will be responsible for End User requirements related to the telephone service that includes items such as numbering, emergency services contact, call signalling, call transportation and value added services, such as, call diversion, caller number display, and messaging etc.

11. Baseband Remote

11.1 Baseband Remote is designed so that Service Providers can provide a Voice Service from their own local Exchange based equipment over a copper pair to the End User.

11.2 Baseband Remote is only available to a Service Provider where it will be the only service taken over a particular copper line. Baseband Remote cannot be supplied to a Service Provider over a copper subscriber line where the UCLL Service or Sub-loop Service is also being supplied by Chorus.

11.3 Baseband Remote cannot be combined with Broadband.

Description

11.4 Pair Gain, CMAR and Country Sets or alternative technology are deployed where there are either insufficient or no copper pairs available to reach the end user.

Geographic availability

11.5 Baseband Remote is available where Chorus has deployed Pair Gain, CMAR and Country Set equipment.

Tenure

11.6 Baseband Remote geographical coverage is limited to the existing Remote geographical coverage listed in the Baseband Availability file on Chorus' website (www.chorus.co.nz/baseand) and no further Pair Gain or CMAR and Country Set systems will be deployed. Baseband Remote will continue to be offered wherever these systems remain active. If Baseband Remote is the only variant available at an Exchange or Cabinet requested by the Service Provider and the Service Provider is unable to use the existing Pair Gain, CMAR or Country Set equipment, then Chorus will work with the Service Provider to discuss possible solutions to enable it to obtain an alternative Baseband variant or similar voice input service.

11.7 If Chorus intends to implement a change to the geographical coverage areas, such change will be communicated in accordance with the Operations Manual.

Service Provider Handover Point

11.8 Baseband Remote terminates on the Service Provider's HDP block in the local Exchange.

End User Handover Point

11.9 Baseband Remote is delivered over a copper interface to the ETP at the End User's site.

11.10 Baseband Remote excludes premises wiring. The Service Provider or the End User will be responsible for customer premises equipment (CPE) and wiring at the End User's site beyond the ETP. The Service Provider should, but is not obligated to, ensure that TelePermit requirements (available at www.telepermit.co.nz) and the Code of Practice for Residential and Small Office Premises Wiring (available at www.tcf.org.nz/premwiring) are adhered to.

Telephone services

11.11 The Service Provider will be responsible for End User requirements related to the telephone service that includes items such as numbering, emergency services contact, call signalling, call transportation and value added services such as call diversion, caller number display and messaging.

APPENDIX 1

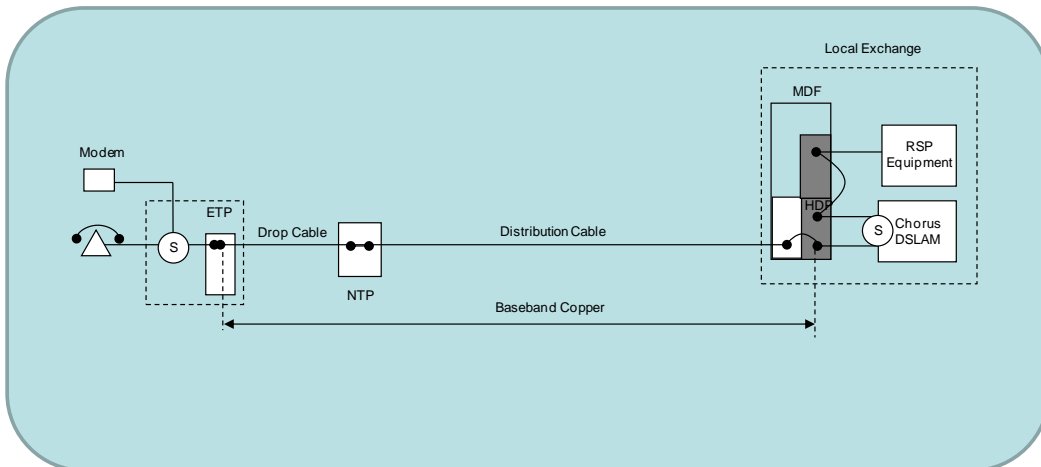


Figure 1: Baseband Copper (shown off an Exchange with Broadband)

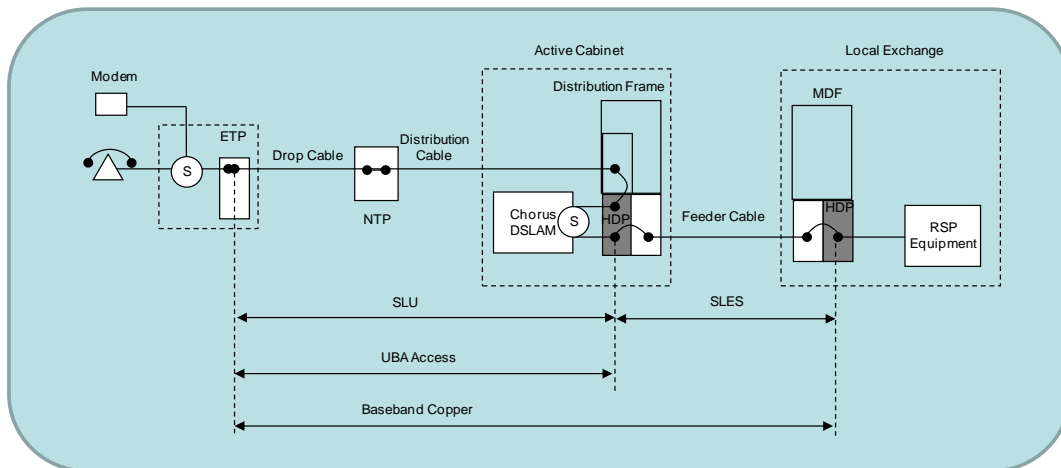


Figure 2: Baseband Copper (shown off a cabinet with Broadband)

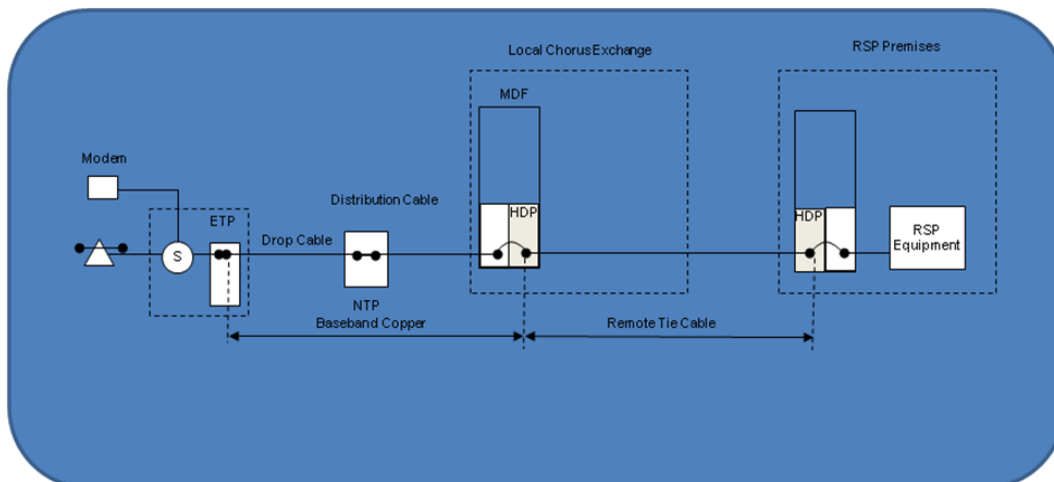


Figure 3: Baseband Copper (Remote Tie Cable)

APPENDIX 2

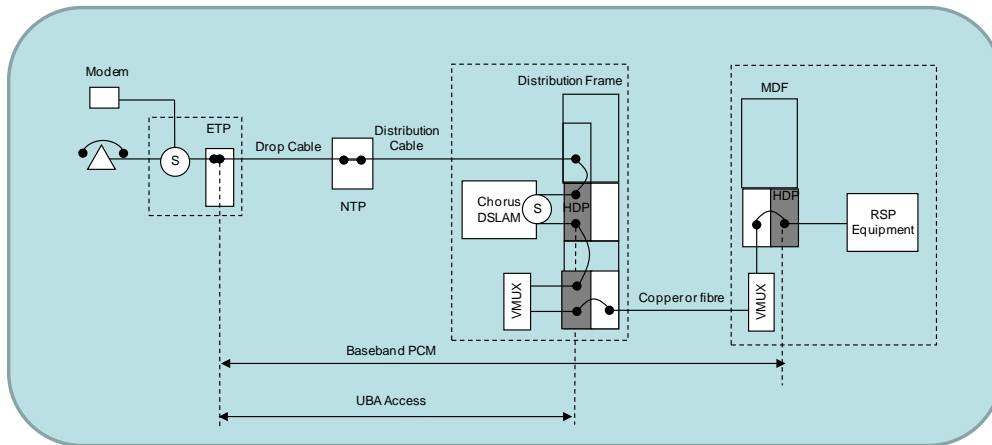


Figure 4: Baseband PCM (shown off a cabinet with Broadband)

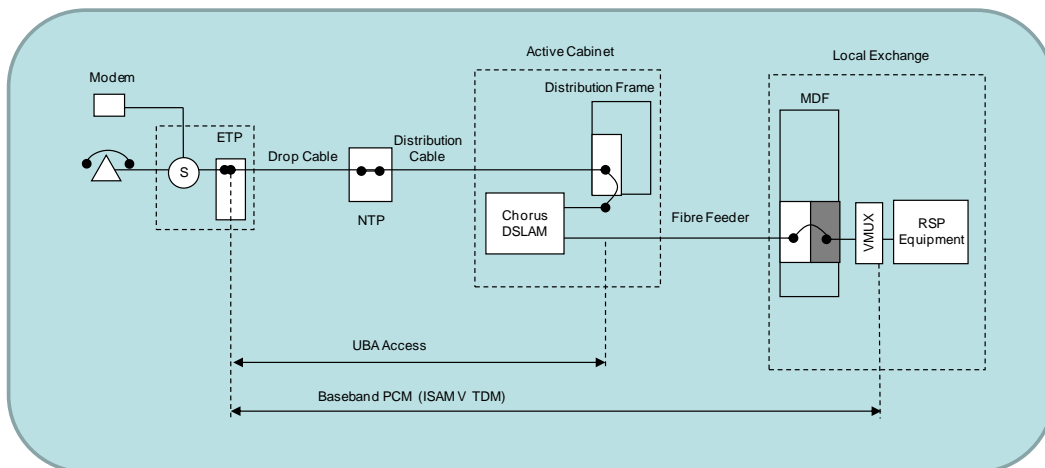


Figure 5: Baseband PCM ISAMV TDM option (shown off a cabinet with Broadband)

APPENDIX 3

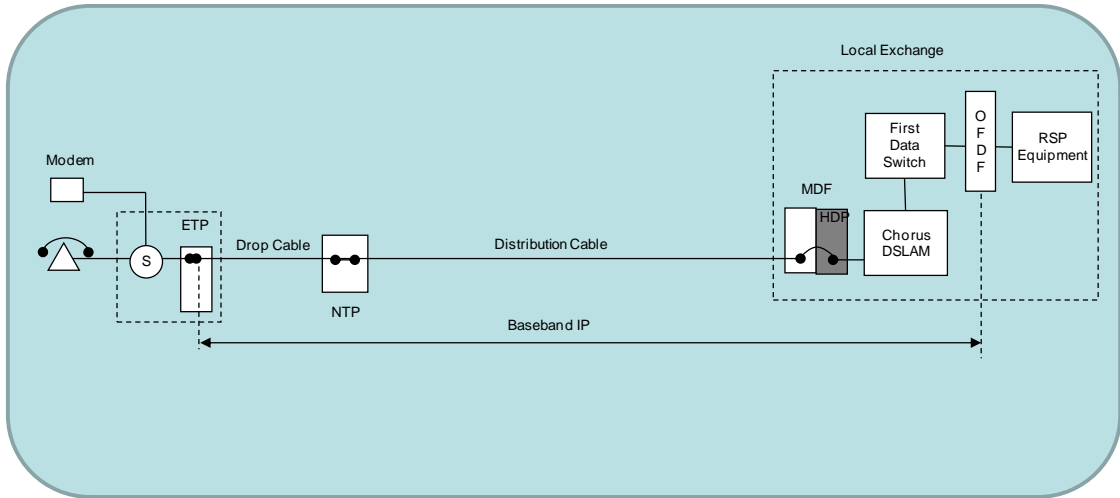


Figure 6: Baseband IP (shown off an Exchange with Broadband) Show E-NNI as the handover in local Exchange - RL

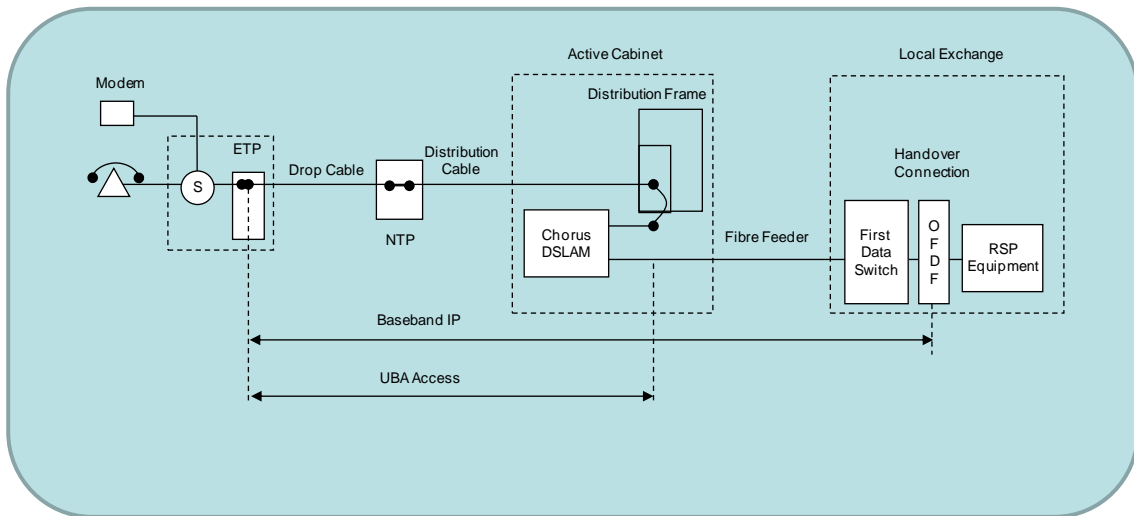


Figure 7: Baseband IP (shown off a cabinet with Broadband)

APPENDIX 4

The parameters of the MPF are defined for the pair from the MDF to the ETP. When testing the parameters of the MPF, the MPF must be tested in isolation from End User premises wiring and equipment and from operator wiring and equipment.

The frequency response of the MPF is limited to the frequency band between 300 and 3400 Hz. The parameters listed in Table 1 apply to all types of MPF.

Parameter (note 2)	Parameter value (taking account of notes 1 to 2)
Minimum insulation resistance between conductors	100k Ohms
Minimum insulation resistance between conductor and earth	100k Ohms

Table 1 - MPF Parameters

Note 1: The MPF will be categorised faulty if any measured resistance is below the parameter values.

Note 2: Any measurement made with respect to earth will be made using the earth at the Chorus MDF site.