

# Parlay i60

## Service Access Controller



## Installation Guide

with  
Important Product and Safety Information

## **EU Declaration of Conformity**

**We, as the manufacturer**

**Partner Voxtream af 2003 A/S  
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DENMARK**

**declare that the following product**

**Parlay i60**

**complies with the essential requirements of  
the European Parliament and Council directive:  
1999/5/EC (R&TTE directive)  
on radio equipment and telecommunications terminal equipment  
and the mutual recognition of their conformity.**

**Any unauthorized modification of the product voids this Declaration.**

For a copy of the original signed declaration, please contact our local sales representative or customers support at the above address.

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# 1. DESCRIPTION

**Parlay i60** is an ISDN Service Access Controller, which can be used in several applications. It is designed to route and distribute calls via ISDN lines of different access network providers. Furthermore, some variants multiplexes ISDN BRA and PRA interfaces onto a single PRA access line.

It is intended to upgrade ISPBX's with powerful, flexible and price attractive facilities not available in the existing network.

**Parlay i60** is designed for 19" rack mounting.

**Parlay i60** is modular and built with up to four interface cards (+ one option card).

**Parlay i60** is available in a range of variant, mainly separated into:

- **Parlay i60 PRA** with PRA interface only, or
- **Parlay i60 BRA** with PRA and BRA interface.

Please see separate sections for further information.

## 1.1 FRONT OF CABINET



Names:	Module 1 Slot 1 PRA1	Module 2 Slot 2 PRA/BRA2	Module 3 Slot 3 PRA/BRA3	Module 4 Slot 4 PRA/BRA4
PRA Interface:	0	2	1	3
BRA Interface:		4-7	8-11	12-15

**ISDN**-sockets, PRA and BRA, as to demand and application are available on the front. The following is available on all variants.

**DCE**-socket is available for connection to a PC during programming or maintenance work. It is also used for chaining of boxes.

**DTE**-socket is available for chaining of boxes. Always connect from DTE of one box to DCE of the next box.

**AUX**-socket is available for future applications and currently not in use.

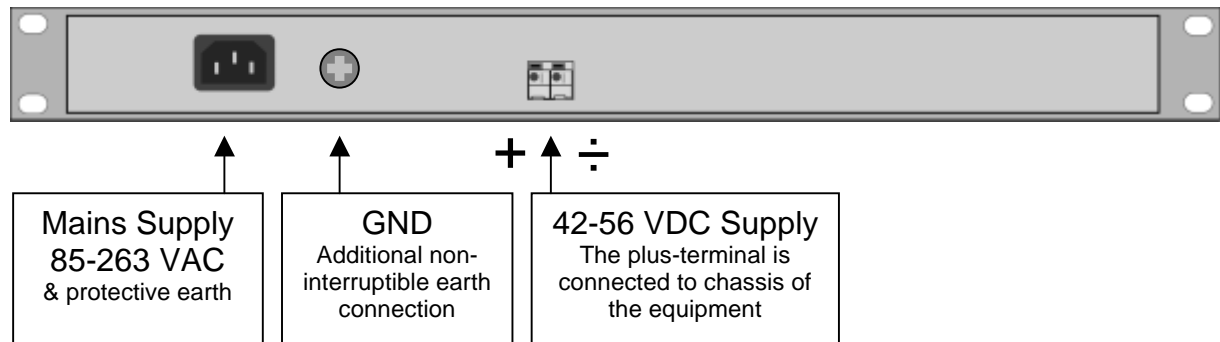
**Push-button** is available - programmable e.g. for heartbeat functionality.

**LED** indicates power to the system.

## 1.2 REAR OF CABINET

**Parlay i60** is a stand-alone box. Normally it is mains powered. An additional power connection for 48 VDC is available for backup or for sole supply.

**Parlay i60** seen from the rear:



**Parlay i60** is powered from the mains or alternatively from a 48 VDC battery supply. A battery supply can also be used as a backup supply for the mains. In that case the battery supply takes over without interruption when the AC supply is disconnected. Protective earth must be available in the mains connection.

## 1.3 OPERATIONAL SAFETY

All call handling on the network side is independent of the call handling on the local side and vice versa.

If more than one line module are of PRA-type, fallback lines will be operational during power failure.

Relays will bridge slot 1 and 2 if both are PRA modules.

Other relays will bridge slot 3 and 4 if both are PRA modules.

## 1.4 PROGRAMMING

Programming can be done either locally or remotely. Programming requires a Windows<sup>®</sup> compatible program called RoutMaker (version 8 or higher).

Programming work and setup specific details can be protected against abuse by passwords.

Programming is to be made according to Application Notes found in a separate document.

## 2. PARLAY I60 PRA

The cabinet can hold up to 4 PRA modules (interface cards) with 1 active PRA each. Each card holds two RJ45 sockets or two BNC connectors. For RJ45 models one socket acts as the slave (TE) on the ISDN network, and one socket acts as the master (NT) for terminal equipment. Active modules are indicated by a blinking LED. Additionally the active RJ45 socket on each card is indicated by a LED inside.

Parlay i60 PRA is available in four variants.

Interface cards	Module pos. 1	Module pos. 2	Module pos. 3	Module pos. 4
3 x PRA	RJ45	RJ45	RJ45	-
3 x PRA	BNC	BNC	BNC	-
4 x PRA	RJ45	RJ45	RJ45	RJ45
4 x PRA	BNC	BNC	BNC	BNC

Parlay i60 PRA with three interface cards for:

- 1 to 2 line-splitter (y-splitter, inverse multiplexer) or 2 to 1 line multiplexer



For RJ45 connection



For BNC connection

Parlay i60 PRA (seen from the front) with four interface cards for:

- 2 times PRA call handling (router), or a
- 1 to 3 line-splitter (psi-splitter, inverse multiplexer) or 3 to 1 line multiplexer



For RJ45 connection



For BNC connection

## 2.1 BNC-MODELS

Each interface card has one BNC-socket for RX-signals and one socket for TX-signals. RX and TX are valid for TE-interface as well as for NT-interface.

The interface is set by means of the interface tab of the configuration menu in RoutMaker.

## 2.2 RJ45-MODELS

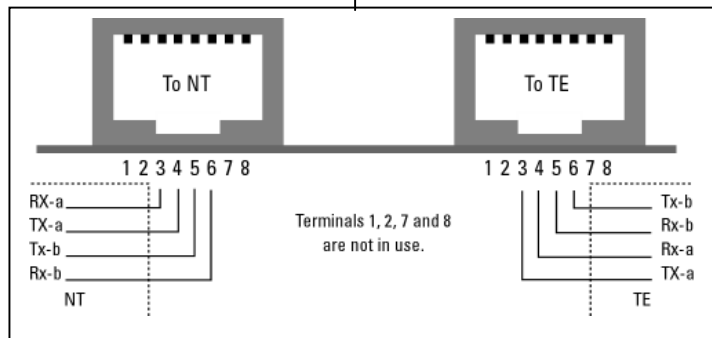
Each interface card holds two RJ45 sockets. Only one of the sockets of the interface card may be used. The programmed application will indicate active sockets by a green LED inside the socket. Sockets without green light shall not be used.

**Parlay i60** seen from the front (4 port model shown):



Sockets marked **>NT** (connect to NT) must be used for connection to an access network.

Sockets marked **>TE** (connect to TE) must be used for connection to terminal equipment.



## 2.3 INSTALLATION AND TEST

It is assumed, that the Service Access Controller has been programmed with the following:

- A customer specific configuration for the application.
- Specified remote access restrictions to allow for remote service.

1. **Test the functionality of the equipment without Parlay i60.**
2. **Connect the cables as to descriptions for the application, but do not power Parlay i60.** Please observe general rules in section 4.
3. **Test that you still have the same functionality as before. If not, wrong cabling is assumed.**
4. **Connect the power supply to the Parlay i60 and await the boot-up (approx. 20 seconds). Synchronisation to ISPBX may take up to 5 minutes !**
5. **Test the extended functionality.**

### 3. PARLAY I60 BRA

Module position 1 is always a PRA-interface (TE) for connection to NT. Other PRA interfaces (TE or NT) can be used for connection to NT or TE as to application and programming.

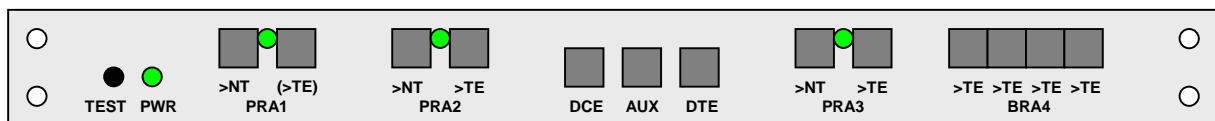
BRA modules (NT) are always used for connection to powered terminal equipment. BRA modules can not power terminal equipment. (An ISDN telephone will not work when connected directly to a BRA interface).

Interface cards	Module pos. 1	Module pos. 2	Module pos. 3	Module pos. 4
1 PRA + 1 BRA*	PRA	4xBRA	-	-
1 PRA + 2 BRA	PRA	4xBRA	4xBRA	-
1 PRA + 3 BRA	PRA	4xBRA	4xBRA	4xBRA
2 PRA + 1 BRA	PRA	PRA	4xBRA	-
2 PRA + 2 BRA*	PRA	PRA	4xBRA	4xBRA
3 PRA + 1 BRA	PRA	PRA	PRA	4xBRA

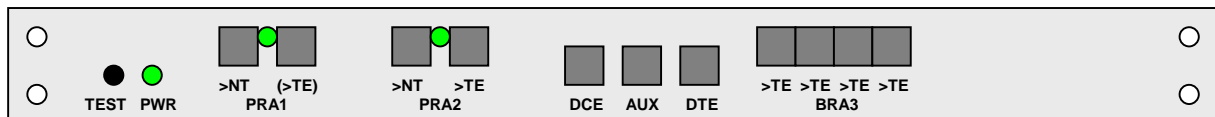
\* To be implemented on demand only.

**Parlay i60 BRA** is a real Service Access Controller providing for a wealth of applications. Please refer to Application Notes in a separate document for some ideas.

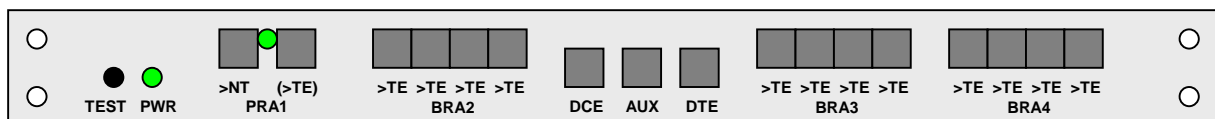
Examples:



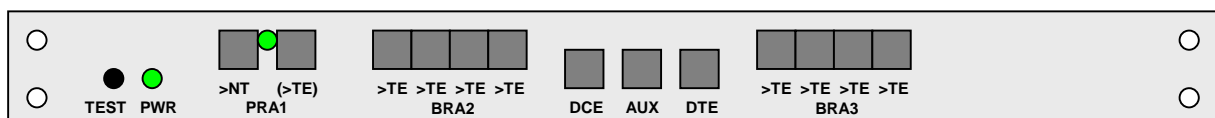
3 x PRA + 1 x 4BRA



2 x PRA + 1 x 4BRA



1 x PRA + 3 x 4BRA



1 x PRA + 2 x 4BRA



### 3.1 INSTALLATION

It is assumed, that the Service Access Controller has been programmed with the following:

- A customer specific configuration for the application.
- Specified remote access restrictions to allow for remote service.

Depending on the application the installation can be done as to section 2.1.

**Please observe:** General rules for installation of BRA lines below.

### 3.2 BRA WIRING CONFIGURATIONS

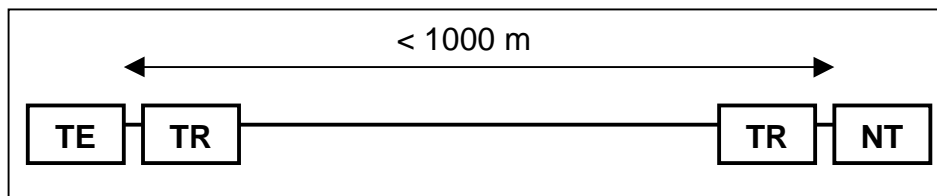
The following is an extract from Recommendation I.430 (11/95) in combination with restrictions from the data sheet for the actual integrated circuits.

Terminating resistors (TR=100 ohms) are to be used at both ends of a cable across RX and across TX terminals.

In this case NT is the i60 BRA socket, and TE is the connected terminal equipment.

#### 3.2.1 Point-to-Point Configuration

This configuration provides for one transmitter/receiver only at each end of the cable. Therefore, maximum permissible attenuation and round trip delay lay down the maximum cable length, which is 1000 metres.



#### 3.2.2 Point-to-Multipoint Configurations

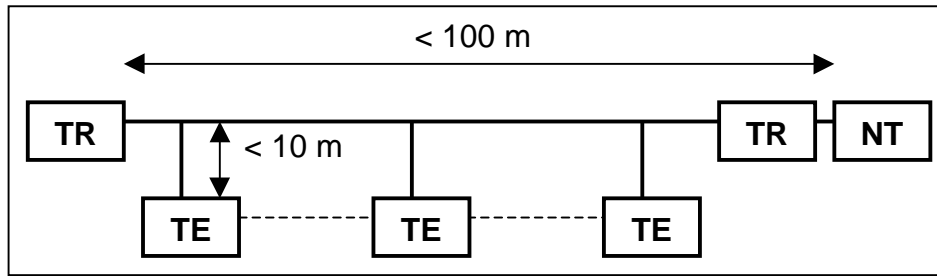
These configurations provides for more than one terminal on the bus.

##### 3.2.2.1 Short Passive Bus

In this configuration TE devices may be connected at random points along the full length of the cable. The maximum round trip delay lay down the maximum cable length (of the short passive bus), which is 100 metres.

TE connections acts as stubs on the cable. A maximum of 8 TEs with cables of up to 10 metres can be used.

(In principle, the NT may be located at any point along the passive bus. The conditions related to other locations require confirmation.)

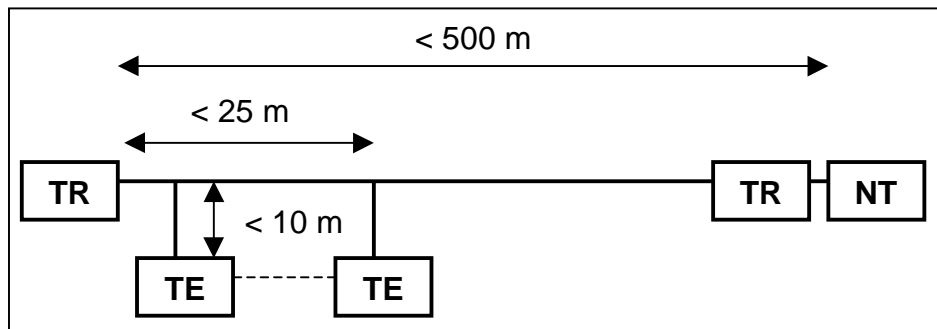


### 3.2.2.2 Extended Passive Bus

In this configuration TEs are restricted to be connected to the far end of the cable (seen from the NT). The maximum round trip delay lay down the maximum cable length (of the extended passive bus), which is 500 metres.

TE connections acts as stubs on the cable. A maximum of 8 TEs with cables of up to 10 metres can be used.

All TEs are to be connected within 25 metres from the end point of the bus.



## 4. PRECAUTIONS

**Installation:** The Parlay i60 shall be installed in office environment or light industrial environment (e.g. server rooms). Installation must be done by a trained engineer.

**The equipment must be connected to an easy accessible mains socket-outlet near to the equipment.**

**The socket-outlet must contain a protective earth terminal.**

### 4.1 CONNECTION TO POWER

For connection to the mains socket-outlet, please only use the original mains cord, supplied with the Parlay i60, from your local distributor.

Sweden: Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk.

Norway: Jordet stikkontakt skal benyttes når apparatet tilkobles datanett.

## 4.2 CONNECTION TO BATTERY

The cabinet of **Parlay i60** is connected to the positive terminal of the battery input. Internal protection against wrong polarity is provided. An external fuse (2.5A T) at the connection point must protect the battery input.

## 4.3 CONNECTION TO ISDN LINES

The ISDN lines (from the access network provider) are intended for connection to an approved NT termination box according to IEC/EN 60950 and not directly to the i60. Thus, the ISDN line interfaces of Parlay i60 are not protected against overvoltages. The equipment must not be connected to lines/network outside the building in which it is installed.

Please take notice of warnings and instructions at the cabinet !

## 4.4 SERVICE AND MAINTENANCE

Any service or repair is allowed only by authorised Service Personal. Other service and maintenance than (re)programming is to be done by replacement.

## 4.5 CONFORMITY

**Parlay i60** is in conformity with the following standards as to the limitations below:

Low Voltage Directive 72/23/EEC  
EMC Directive 89/336/EEC  
R&TTE Directive 99/05/EEC  
IEC 950-A4:1996 (Safety)  
EN60950-A4:1997 (Safety)  
TBR4, directive 98/520/EEC (ISDN PRA)  
EN 55022, class B: 1998 (EMC - emission)  
EN 55024: 1998 (EMC - immunity)

## 4.6 ENVIRONMENTAL CONDITIONS

Dimensions	Height:	1 unit (44,4 mm)
	Width:	19" (482,6 mm)
	Depth:	188 mm
Weight:	2.5 kg	
Operating temperature:	5 - 45 deg. C	no direct sunlight
Operating humidity range:	10 - 90 % R.H.	non-condensing
Nominal input voltage, mains:	85 - 263 VAC, 50/60 Hz	
Input voltage, battery:	42 - 53 VDC	
Power consumption, max.	12 VA	