ARGUS®

THE UNIVERSAL **xDSL TESTERS** FOR SERVICE TECHNICIANS

all-in-one device:

- Copper Tester*
- POTS butt set
- POTS phone
- POTS monitor
- ISDN test set
- ISDN phone
- ADSL/VDSL2* tester
- ADSL/VDSL2* modem
- ADSL/VDSL2* router
- VoIP tester
- VoIP phone
- PC replacement

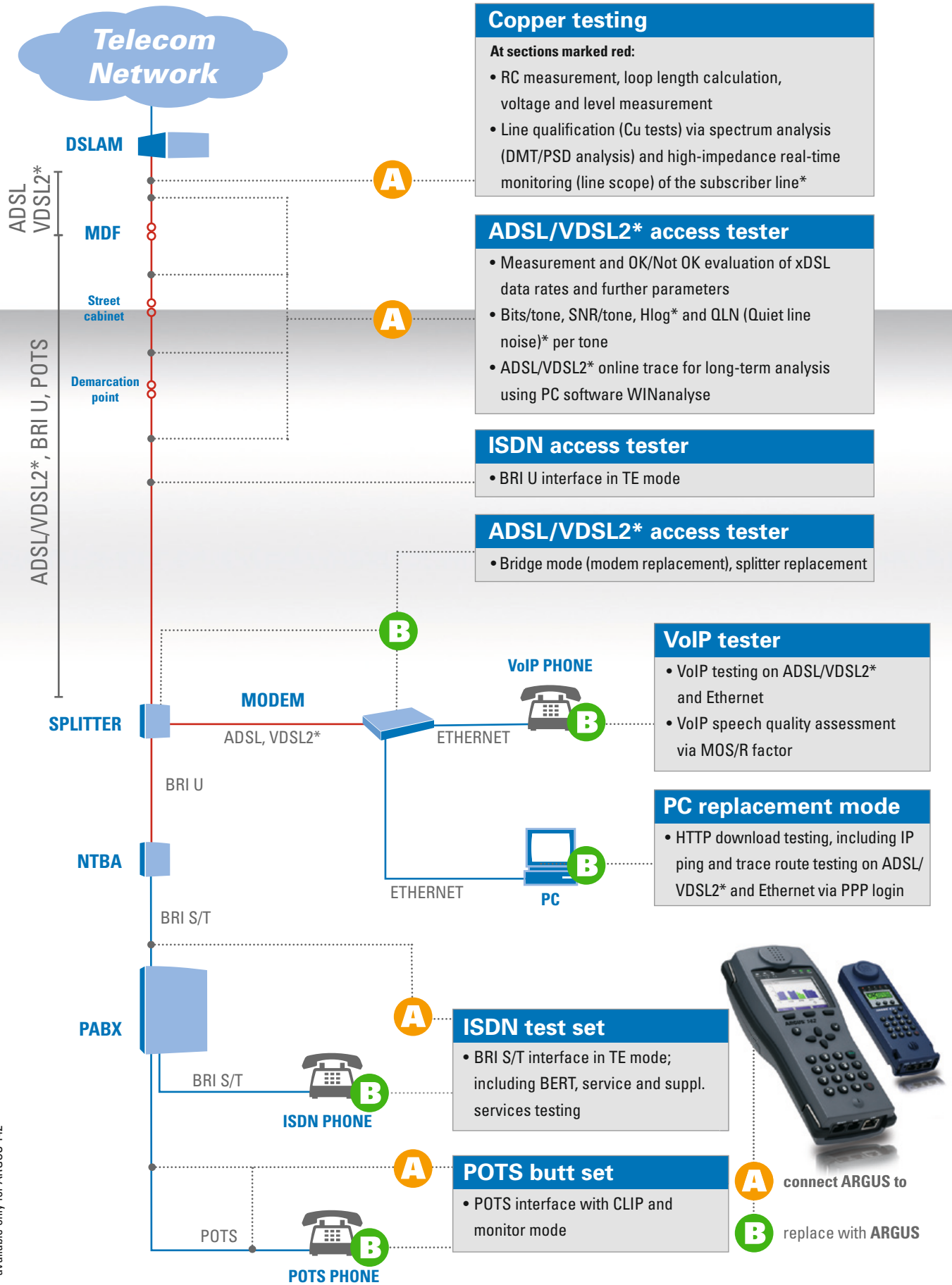
ADSL *
VDSL
ETH
ISDN
POTS
Cu *
TDR *
LQ *
Data 101101011011
IP TV
Vo IP
MOS
PC
USB *

* available only for ARGUS 142

intec
GESELLSCHAFT FÜR
INFORMATIONSTECHNIK mbH

Where to test with ARGUS?

Possible applications to qualify telecom networks using ARGUS test sets



Copper testing

At sections marked red:

- RC measurement, loop length calculation, voltage and level measurement
- Line qualification (Cu tests) via spectrum analysis (DMT/PSD analysis) and high-impedance real-time monitoring (line scope) of the subscriber line*

ADSL/VDSL2* access tester

- Measurement and OK/Not OK evaluation of xDSL data rates and further parameters
- Bits/tone, SNR/tone, Hlog* and QLN (Quiet line noise)* per tone
- ADSL/VDSL2* online trace for long-term analysis using PC software WINanalyse

ISDN access tester

- BRI U interface in TE mode

ADSL/VDSL2* access tester

- Bridge mode (modem replacement), splitter replacement

VoIP tester

- VoIP testing on ADSL/VDSL2* and Ethernet
- VoIP speech quality assessment via MOS/R factor

PC replacement mode

- HTTP download testing, including IP ping and trace route testing on ADSL/VDSL2* and Ethernet via PPP login

ISDN test set

- BRI S/T interface in TE mode; including BERT, service and suppl. services testing

POTS butt set

- POTS interface with CLIP and monitor mode

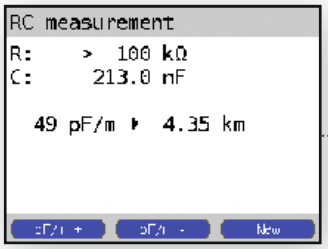
A connect ARGUS to

B replace with **ARGUS**

* available only for ARGUS 142

How to test with ARGUS?

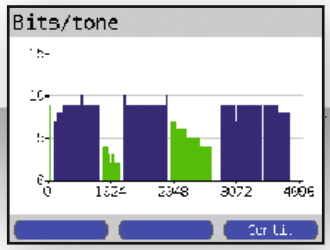
Comprehensive qualification of the local loop utilizing ARGUS test sets



1 Copper (Cu) analysis

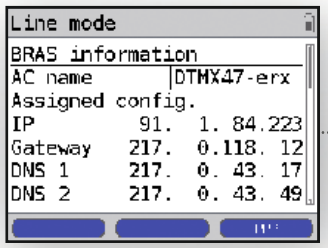
From DSLAM to splitter:
- RC measurement:
  - Resistance, capacitance
  - Tip towards ring, tip and ring towards ground

Measurements on local loop:
- Voltage measurement
- Line scope* supports the interpretation of access type and pilot tones
- Spectrum analysis to detect xDSL signals, interferences and noise*



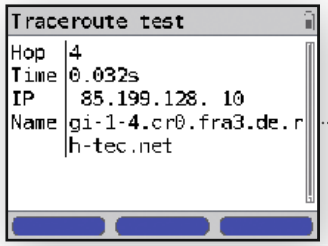
2 Synchronization

- **ADSL/VDSL2*:** Synchronization
- **ADSL/VDSL2*:** Evaluation of
  - Up- and downstream parameters
  - Line attenuation, SNR margin
  - Bits, SNR, Hlog, QLN per tone
- **ISDN:** Layer 1 setup:
  - Level measurement
  - Layer 1 state
- **POTS:** level, hook-on, hook-off



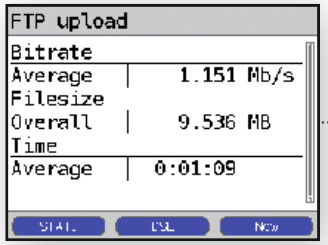
3 Protocol setup

- **ADSL/VDSL2*:** PPP connection setup
- **PPP:** Authentication with:
  - User name
  - Password
- **PPP:** Display of PPP login trace
- **ISDN:** Access detection:
  - Point-to-Point, Point-to-Multipoint
  - Protocols (e.g. DSS1, CorNet, etc.)
  - Availability of B channels



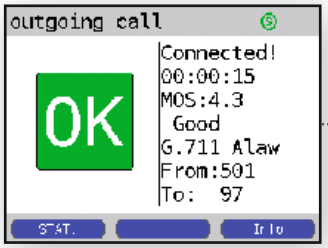
4 Protocol testing

- **IP:** Ping and trace route testing
- **IP:** Bridge and router modes
- **IP:** Ethernet link setup
- **ISDN:** Supplementary services testing:
  - Call forwardings, advice of charge
- **ISDN:** Services testing, e.g.:
  - Speech, telephony, facsimile, etc.



5 Performance testing

- **ADSL/VDSL2*:** Online trace
- **IP:** HTTP download
- **IP:** FTP* up-/download
- **ISDN:** bit error testing
  - As a loopbox
  - In end-to-end mode
  - Various bit patterns available



6 Services testing

- **VoIP:** TE simulation
- **VoIP:** Quality of service (QoS) via:
  - MOS evaluation / R factor
  - OK/FAIL assessment
- **ISDN:** Call setup
  - End-to-end
  - Self call
- **POTS:** Call setup (CLIP)

* available only for ARGUS 142

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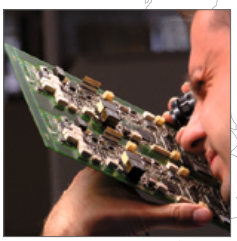
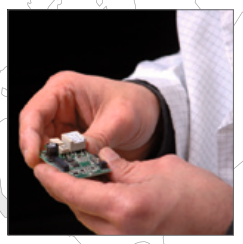
In use throughout **Europe**

intec Gesellschaft für Informationstechnik mbH is developing products for the international telecommunications market for more than 20 years and is one of the leading suppliers for xDSL, ISDN and IP measurement technology in Europe today.

With the aid of ARGUS measurement equipment, users can conveniently and safely commission and troubleshoot xDSL and ISDN accesses as well as inspect services like VoIP and IPTV based hereon. ARGUS testers are designed to meet the day-to-day needs of the field staff; consequently intec engineers focus on ensuring high-quality measurements combined with simply and convenient operation.

The portfolio of ARGUS testers, software and analyzers benefits from a continuous development and is kept up-to-date with support for the current standards for all the common access types and protocols as well as for the features of the Next Generation Networks (NGN) and Triple Play services. Throughout the world, numerous telecommunication companies have come to appreciate and rely on the advantages offered by intec equipment; to name just a few Deutsche Telekom, Saudi Telecom, Telefonica, KPN, British Telecom and Telekom Austria.





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ARGUS overview

	165	145 plus	142	42 plus	141	42 basic	125	3u NT	3u plus	3u basic
VDSL2	✓ [3]	✓ [3]	✓ [3]		✓					
ADSL [1]	✓ [3]	✓ [3]	✓ [3]	✓ [3]	✓	✓	✓ [3]			
SHDSL	✓	✓								
10/100 Base-T (Cu)	✓	✓	✓	✓	✓		✓			
1000 Base-T (Cu)	✓	✓ [2]								
2 x SFP	✓									
BRI U	✓	✓	✓	✓			✓	✓	✓	✓
BRI S/T TE/LL	✓	✓	✓	✓			✓	✓	✓	✓
BRI S/T NT/mon.	✓	✓					✓	✓		
PRI/E1		✓					✓			
POTS	✓	✓	✓	✓			✓	✓	✓	✓
RC	✓	✓	✓	✓			✓	✓	✓	
DMT Analysis	✓	✓	✓		✓					
Line Scope	✓	✓	✓							
Probe	✓	✓	✓							
TDR	✓	✓	✓							
LQ/DELT			✓							
Bridge	✓	✓	✓	✓	✓	✓	✓			
Router	✓	✓	✓	✓	✓		✓			
IP Tests	✓	✓	✓	✓ [2]	✓	✓ [2]	✓			
Down-/upload	✓	✓	✓	✓ [2]	✓		✓			
IPTV/MDI	✓	✓	✓	✓ [2]						
VoIP & MOS	✓	✓	✓	✓	✓		✓			
PESQ		✓					✓			
	165	145 plus	142	42 plus	141	42 basic	125	3u NT	3u plus	3u basic

✓ inclusive

✓ optional

✓ minimum one DSL interface is part of the standard package

[1] Annex may vary depending on country.
[2] On request
[3] Online trace in combination with WINanalyse