repeaters
REPEATERS from FIPLEX, overall

- Complete line to cover requirements from SOHO to large in-building systems.
- Available for:
  - FM
  - VHF
  - UHF: Tetra, P25, IDAS, Mototrbo, MPT, LTR, CDMA450,…
  - SMR & Public Safety 700, 800 and 900
  - Cellular 850 and PCS
  - GSM and EGSM: GMS, WCDMA, GSM-R
  - DCS: GSM, WCDMA
  - PCS: GSM, CDMA, WCDMA
  - UMTS
  - AWS
  - Available soon for LTE
- Band Selective & Channel Selective.
- Indoor & outdoor applications.
- Fiber optic links
- Complete line of accessories for inbuilding.
APPLICATIONS
• Solutions for small structures and large buildings.
• Coverage Solutions for tunnels and mines.
• Compact Units for coverage up to 5000 m²
• Powerful Units for coverage greater than 10,000 m²
FM, VHF and UHF Repeaters
• Unidirectional Amplifiers for indoor coverage of FM signals.
• Band Selective and Channel Selective versions.
• FM Break In as optional for local SOS broadcasted messages over FM channels.
• AGC and Overload protection.
• Antenna isolation control.
• Outdoor cabinet.
• Remote control capability (option RC-G).
• Fiber Feed capability (option FO-CT).
• Band Selective models:
  • UDA10F-1B2LC
  • UDA10F-1B4LC
• Channelized models:
  • UDA10F-1B2-0x0000 (replace “x” by channels qty)
• Repeater for Large size applications.
• Single band.
• 2MHz BW.
• 5MHz min Tx to Rx separation.
• +30dBm output power.
• 80dB gain adjustable.
• AGC and Overload protection.
• Antenna isolation control.
• Outdoor cabinet.
• Remote control capability (option RC-G).
• Fiber Feed capability (option FO-CT).
• Model:
  • BDA15S-1B2LC
Low Power REPEATERS for UHF

- For P25, TETRA, IDAS, Mototrbo, MPT, CMDA450 and others.
- Repeater for Small and Medium size applications.
- Single band as standard, multiband as optional.
- 2MHz and 5MHz BW.
- 5Mhz and 10MHz split.
- +18 dBm output power.
- 70dB gain adjustable.
- AGC and Overload protection.
- Antenna isolation control.
- Outdoor cabinet.
- Remote control capability (option RC-G).
- Fiber Feed capability (option FO-CT).
- Band Selective models:
  - **BDA38S-3A1LC** (5Mhz BW & 10MHz split)
  - **BDA45S-2A1LC** (2Mhz BW & 5MHz split)
High Power REPEATERS for UHF

- For P25, TETRA, IDAS, Mototrbo, MPT, CDMA450 and others.
- Repeater for Large size applications, indoor and outdoor.
- Single band as standard, multiband as optional.
- 2MHz and 5MHz BW.
- 5Mhz and 10MHz split.
- +32 dBm (ETSI) and +37dBm (FCC) output power.
- 80dB gain adjustable.
- AGC and Overload protection.
- Antenna isolation control.
- Outdoor cabinet.
- Remote control capability (option RC-G).
- Fiber Feed capability (option FO-CT).
- Band Selective models:
  - **BDA38S-2B2LC** (ETSI, 2Mhz BW & 5MHz split)
  - **BDA38S-3B2LC** (ETSI, 5Mhz BW & 10MHz split)
  - **BDA45S-2B2LC** (FCC, 2Mhz BW & 5MHz split)
  - **BDA38S-3B2LC** (FCC, 5Mhz BW & 10MHz split)
• For P25, TETRA, IDAS, Mototrbo, MPT, CDMA450 and others.
• Repeater for Large size applications, indoor and outdoor.
• 2 to 8 channel filters.
• 2MHz and 5MHz BW.
• 5Mhz and 10MHz split.
• +32 dBm (ETSI) and +37dBm (FCC) output power.
• 80dB gain adjustable.
• AGC and Overload protection.
• Antenna isolation control.
• Outdoor cabinet.
• Remote control capability (option RC-G).
• Fiber Feed capability (option FO-CT).
• Band Selective models:
  • **BDA38S-2B2-x00000** (ETSI, 2Mhz BW & 5MHz split)
  • **BDA38S-3B2-x00000** (ETSI, 5Mhz BW & 10MHz split)
  • **BDA45S-2B2-x00000** (FCC, 2Mhz BW & 5MHz split)
  • **BDA38S-3B2-x00000** (FCC, 5Mhz BW & 10MHz split)
Public Safety 800MHz Repeaters
REPEATERS for PUBLIC SAFETY 800MHz

- **SOHO applications:**
  - PS-1A10S

- **Medium Size applications:**
  - CBDAS-1A1S

- **Large Size applications:**
  - BDA85S-1A1LC
  - BDA85S-1B2LC
  - BDA85S-1B2-x00000

- **Leaky cable applications:**
  - IBS-1L1

fiplex
COMMUNICATIONS INC.
PS-1A10S – SOHO Repeater

- Model: **PS-1A10S**
- Repeater for SOHO applications.
- Single band.
- Band Selective (SAW filtered):
  - Full band: 15 or 18MHz
  - Narrow band: center frequency USB adjusted
- 65dB gain adjustable & +10dBm output power.
- RSSI and Feedback indicators.
- AGC and Overload protection.
- Indoor cabinet.
- For SMR and ESMR.
- Available soon for Public Safety 700 and 900MHz.
- Compatible TETRA, P25, iDEN, etc.
- Compact size.

fiplex
COMMUNICATIONS INC.
PS-1A15S – SOHO Repeater

- Model: **PS-1A15S**
- Repeater for SOHO applications.
- Single band.
- Band Selective (SAW filtered):
  - Full band: 15 or 18MHz
  - Narrow band: center frequency USB adjusted
- 65dB gain adjustable & +15dBm output power.
- RSSI and Feedback indicators.
- AGC and Overload protection.
- Indoor cabinet.
- For SMR and ESMR.
- Available soon for Public Safety 700 and 900MHz.
- Compatible TETRA, P25, iDEN, etc.
- Compact size.
CBDAS-1A1S – Ultra Compact

- Model: **CBDAS-1A1S**
- Repeater for Medium Size applications.
- Single band.
- Band Selective (SAW filtered):
  - Full band: 15 or 18MHz
  - Narrow band: center frequency USB adjusted
- 70dB gain adjustable & +20dBm output power.
- RSSI and Feedback indicators.
- AGC and Overload protection.
- Indoor cabinet.
- For SMR and ESMR.
- Available soon for Public Safety 700 and 900MHz.
- Compatible TETRA, P25, iDEN, etc.
- Compact size.
BDA Series – Compact

- Models:
  - **BDA85S-1A1LC**, 70dB gain, +24dBm
  - **BDA85S-1B23LC**, 80dB gain, +37dBm
- Repeater for Large Size applications.
- **Single band, adjustable from 500KHz to Full Band in 25KHz steps (SAW filtered).**
- FCC IMD compliant.
- AGC and Overload protection.
- Antenna isolation control.
- Outdoor cabinet.
- For SMR and ESMR, software adjustable.
- Available soon for Public Safety 700 and 900MHz.
- Compatible TETRA, P25, iDEN, others.
- Remote control capability (option RC-G).
- Fiber Feed capability (option FO-CT).
Dual Band BDA Series – Compact

- Bands available:
  - SMR+AWS
  - SMR+PCS
- Repeater for Large Size applications.
- **Single band, adjustable from 500KHz to Full Band in 25KHz steps (SAW filtered).**
- FCC IMD compliant.
- AGC and Overload protection.
- Antenna isolation control.
- Outdoor cabinet.
- For SMR and ESMR, software adjustable.
- Available soon for Public Safety 700 and 900MHz.
- Compatible TETRA, P25, iDEN, WCDMA, GSM, CDMA, 1X, GPRS/EDGE, HSDPA
- Remote control capability (option RC-G).
- Fiber Feed capability (option FO-CT).
BDA-CS Series – Channel Selective

- Models:
  - BDA85S-1B23-400000, 4 channels
  - BDA85S-1B23-800000, 8 channels
- Repeater for Large Size applications.
- Center frequency software adjustable.
- FCC IMD compliant.
- AGC and Overload protection.
- Antenna isolation control.
- Outdoor cabinet.
- For SMR and ESMR, software adjustable.
- Available soon for Public Safety 700 and 900MHz.
- Compatible TETRA, P25, iDEN, others.
- Remote control capability (option RC-G).
- Fiber Feed capability (option FO-CT).
Model: **IBS-1L1**
- For long runs and leaky cable systems.
- Compensation of cable loss.
- Single band, full band.
- +20dBm output power.
- 30dB gain adjustable.
- AGC and Overload protection.
- Indoor cabinet.
- For SMR and ESMR.
- Next for 700 and 900MHz.
- Available soon for Public Safety 700 and 900MHz.
- Compatible with TETRA, P25, iDEN, others.
- Compact size.
Cellular Repeaters
REPEATERS for CELLULAR APPLICATIONS

• SOHO applications:
  - P Series
• Medium Size applications:
  - CBDA Series
• Large Size applications:
  - BDA Series – Band selective
  - BDA Series – Channel Selective
• Leaky cable applications:
  - IB Series
- Repeater for SOHO applications.
- Single band.
- Band Selective (SAW filtered):
  - Full band
  - Narrow band: center frequency USB adjusted
- 65dB gain adjustable & +10dBm output power.
- RSSI and Feedback indicators.
- AGC and Overload protection.
- Indoor cabinet.
- For 850MHz, EGSM, DCS, PCS, UMTS, AWS.
- Available soon for LTE.
- Compatible GSM, CDMA, WCDMA, 1X, HSDPA, GPRS/EDGE.
- Models:
  - **PC-1A10S-xx**, for 850MHz, replace XX for BW
  - **PE-1A10S-xx**, for EGSM, replace XX for BW
  - **PD-1A10S-xx**, for DCS, replace XX for BW
  - **PP-1A10S-xx**, for PCS, replace XX for BW
  - **PU-1A10S-xx**, for UMTS, replace XX for BW
  - **PA-1A10S-xx**, for AWS, replace XX for BW
Repeater for SOHO applications.

Single band.

Band Selective (SAW filtered):
- Full band
- Narrow band: center frequency USB adjusted

65dB gain adjustable & +15dBm output power.

RSSI and Feedback indicators.

AGC and Overload protection.

Indoor cabinet.

For 850MHz, EGSM, DCS, PCS, UMTS, AWS.

Available soon for LTE.

Compatible GSM, CDMA, WCDMA, 1X, HSDPA, GPRS/EDGE.

Models:
- **PC-1A15S-xx**, for 850MHz, replace XX for BW
- **PE-1A15S-xx**, for EGSM, replace XX for BW
- **PD-1A15S-xx**, for DCS, replace XX for BW
- **PP-1A15S-xx**, for PCS, replace XX for BW
- **PU-1A15S-xx**, for UMTS, replace XX for BW
- **PA-1A15S-xx**, for AWS, replace XX for BW
• Repeater for Medium Size applications.
• Single band.
• Band Selective (SAW filtered):
  • Full band
  • Narrow band: center frequency USB adjusted
• 70dB gain adjustable & +18/+20dBm output power.
• RSSI and Feedback indicators.
• AGC and Overload protection.
• Indoor cabinet.
• For 850MHz, EGSM, DCS, PCS, UMTS, AWS.
• Available soon for LTE.
• Compatible GSM, CDMA, WCDMA, 1X, HSDPA, GPRS/EDGE.
• Models:
  • **CBDAC-1A1S-xx**, for 850MHz, replace XX for BW
  • **CBDAE-1A1S-xx**, for EGSM, replace XX for BW
  • **CBDAD-1A1S-xx**, for DCS, replace XX for BW
  • **CBDAP-1A1S-xx**, for PCS, replace XX for BW
  • **CBDAU-1A1S-xx**, for UMTS, replace XX for BW
  • **CBDAA-1A1S-xx**, for AWS, replace XX for BW
BDA Series – Band Selective

- Repeater for Large Size applications.
- Single band as standard, multiband as optional.
- Band Selective (SAW filtered):
  - Single band pass, software adjustable
  - Dual band pass, fix BW and center frequency adjustable
- 80dB gain adjustable & +32/+37dBm output power.
- RSSI and Feedback indicators.
- AGC and Overload protection.
- Outdoor cabinet.
- For 850MHz, EGSM, DCS, PCS, UMTS, AWS.
- Compatible GSM, CDMA, WCDMA, 1X, HSDPA, GPRS/EDGE.
- Available soon for LTE.
- Remote control capability (option RC-G).
- DAS Fiber Feed capability (option FO-CT).
- Models:
  - **BDA85C Series**, for 850MHz
  - **BDA85E Series**, for EGSM
  - **BDA85D Series**, for DCS
  - **BDA85P Series**, for PCS
  - **BDA85U Series**, for UMTS
  - **BDA85A Series**, for AWS
Dual Band BDA Series – Compact

- Bands available:
  - 850+PCS
  - 850+AWS
  - AWS+PCS
- Repeater for Large Size applications.
- **Single band, adjustable from 500KHz to Full Band in 25KHz steps (SAW filtered).**
- FCC IMD compliant.
- AGC and Overload protection.
- Antenna isolation control.
- Outdoor cabinet.
- Compatible TETRA, P25, iDEN, WCDMA, GSM, CDMA, 1X, GPRS/EDGE, HSDPA
- Remote control capability (option RC-G).
- Fiber Feed capability (option FO-CT).
BDA Series – Channel Selective

- Repeater for Large Size applications.
- Single band.
- Channel Selective (SAW filtered):
  - 4 and 8 channels
  - 200KHz, 1.25MHz and 5MHz BW
  - Mix of filters BW for hybrid/multi technology systems
- 80dB gain adjustable & +37dBm output power.
- RSSI and Feedback indicators.
- AGC and Overload protection.
- Outdoor cabinet.
- For PCS.
- Compatible GSM, CDMA, WCDMA, 1X, HSDPA, GPRS/EDGE.
- Remote control capability (option RC-G).
- DAS Fiber Feed capability (option FO-CT).
- Models:
  - **BDA190P-1B3-0x0000**, for GSM channels.
  - **BDA190P-1B3-00x000**, for CDMA channels.
  - **BDA190P-1B3-000x000**, for WCDMA channels.
  - **BDA190P-1B3-0xxx000**, for mix of technologies.
IB Series – Line Amplifiers

- For long runs and leaky cable systems
- Compensation of cable loss
- Single band, fullband
- +20dBm output power
- 30dB gain adjustable
- RSSI indicator.
- AGC and Overload protection.
- Indoor cabinet.
- For 850MHz, EGSM, DCS, PCS, UMTS, AWS.
- Compatible GSM, CDMA, WCDMA, 1X, HSDPA, GPRS/EDGE.
- Available soon for LTE.
- Compatible GSM, CDMA, WCDMA.
- Models:
  - **IBC-1L1**, for 850MHz.
  - **IBE-1L1**, for EGSM.
  - **IBD-1L1**, for DCS.
  - **IBP-1L1**, for PCS.
  - **IBU-1L1**, for UMTS.
  - **IBA-1L1**, for AWS.
Fiber Optical Systems
MOU Series – Master Optical Unit

- Intended for long runs and Optical DAS.
- Broadband, HF to 2.5GHz.
- 1310 and 1550uM.
- Rack mount and stand alone units.
- Suitable for FO Repeaters.
- Alarm panel.
- AGC and Overload.
- Indoor.
- Remote control capability (option RC-G).
- From 1 to 8 FO links as standard
- Models:
  - MOU1x, replace “x” by optical outputs
FO-CT – Fiber Feed Unit

- Model: **FO-CT**
- Option for fiber feed conventional Repeaters.
- Full band units, from HF to 2500MHz.
- Suitable for all BDA and Repeaters.
- Single mode fiber.
- WDM included.
- Can be field implemented.
- Applies for all lines of Repeaters, except P and CBDA Series.
In this example:

- Single BTS connected to four “Remote Heads” on a Star Configuration using one MOU14.
- “Remote Heads” are Band Selective Repeaters with FO-CT option.
In this example:

- Instead of coupling the signals directly from a BTS, a Channel Selective Repeater is used to “pick” the signals from the air.
- Channel Selective Repeater connected to four “Remote Heads” on a Star Configuration using one MOU14.
- “Remote Heads” are Band Selective Repeaters with FO-CT option.
In this example:

- Multi Band and Multi Technology Indoor Coverage System.
- Several BTS connected to a MOU14 thru a Multi Band Combiner.
- MOU14 connected to four “Remote Heads” on a Star Configuration using one MOU14.
- “Remote Heads” are Multi Band and Multi Technology Repeating Systems composed by Multi Band Combiners and Band Selective Repeaters, fed by a FO-CT module.
Remote Control Management Tool
- Model: **FOMS**
- FIPLEX OMS: BDA Administrator System & BDA Control System.
- Real-time.
- Server – client.
- Parameters and alarms.
- Via SMS / packet data.
- Treeview.
- SQL database engine.
- Individual users profiles, permissions.
RC-G – Remote Control Unit

- Model: **RC-G**
- Option for remote supervision of Repeaters.
- Repeater alarms reports.
- Suitable for BDA Series.
- Link via GSM network.
- Proprietary protocol.
- Factory installed.
- Works with FOMS platform.
- Applies for all lines of Repeaters (except P and CBDA Series) and MOUs.
Antennas and Passive Devices
Indoor Omni Antenna

- **FIP1000**
- Dome type.
- Roof mount.
- 800 – 2500MHz, suitable for GSM to WLAN.
- 3dBi gain.
- Vertical polarization, 55 degrees.
- Indoor type.
- N(f) connectors.
- Maximum power 100W.
Indoor Panel Antenna

- **FIP2001**
- Panel type.
- Wall mount.
- 800 – 2500MHz, suitable for GSM to WLAN.
- 8dBi gain.
- Vertical polarization, 58 degrees.
- Horizontal aperture 68 degree.
- Front – Back ratio 15dB min.
- Indoor type.
- N(f) connectors.
- Maximum power 100W.
Outdoor Panel Antenna

- **FIP2004**
- Panel type.
- Wall and Pipe mount.
- 800 – 2500MHz, suitable for GSM to WLAN.
- 7dBi gain.
- Vertical polarization, 58 degrees.
- Horizontal aperture 87 degree.
- Front – Back ratio 20dB min.
- Outdoor type
- N(f) connectors
- Maximum power 50W.
• **FIP825**
  • Yagui type with radome cover.
  • Pipe mount (40-50mm).
  • Aluminum alloy, welded.
  • 800 – 2500MHz, suitable for GSM to WLAN.
  • 11dBi gain.
  • Vertical polarization, 50 degrees.
  • Horizontal aperture 90 degree.
  • Front – Back ratio 25dB min.
  • Outdoor type
  • N(f) connectors
  • Maximum power 100W.
Coaxial Splitters

- **PSC** Series.
- 2, 3 and 4 ways.
- High power handling capability up to 500W.
- From VHF to 2500MHz
- 800-2500MHz broadband models.
- Low insertion loss.
- Low PIM, 160dBc typ.
- Indoor and outdoor versions.
- N(f) and 7/16(f) connectors.
Broadband Splitters

- **DPS** Series.
- 2, 3 and 4 ways.
- Power handling capability as splitter of 50W.
- 800-2500MHz broadband models.
- Low insertion loss.
- Low PIM, 160dBc typ.
- Indoor versions.
- N(f) type connectors.
RF Directional Couplers

- RSA Series.
- 6, 10, 15, 20 and 30dB coupling values.
- High power handling capability up to 200W.
- From VHF to 2500MHz
- 800-2500MHz broadband models.
- Low insertion loss.
- Low PIM, 160dBc typ.
- Outdoor use.
- N(f) and 7/16(f) connectors.
Any frequency... any technology...
We improve the coverage of your network.

Repeaters (bda)
Tower Mounted Amplifiers (tma)
Products For iDEN®
Products For TETRA / TETRAPOL
Transmitter Combiners
Receiver Multicouplers
Duplexers
Filters
R.f. Components
Broadcasting

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COMMUNICATIONS