PABX SYSTEM
ECS-FD400

The ECS-FD400 is an advanced multi media integrated PABX system. The architecture of ECS-FD400 system is based on IP protocol and at the same time providing TDM circuits for legacy interfaces. It is fully compatible with the ECS-FD and FX family of PABX systems provided by BlueCom in the past.
The ECS-FD400 has been specially tailored for the communication needs of the utility, gas and transportation industry using pilot-wire, power line carrier, microwave, fiber optics SDH and PDH communication systems. Important features such as intrusion, forced release, alternate routing, compander and squelch on tie lines as well as flexible numbering plans are standard features available in the system.

Architecture / Technology
The architecture of the ECS-FD400 has been designed to full fill following main characteristics:
Modularity
A wide variety of different peripheral boards can be installed in the system.
Scalability
The sysem can be fully customized as per the clients specification. Only those modules required for a certain application need to be purchased.
Expandability
The system can be expanded by additional shelves (up to 8 shelves) maintaining unified level of services within a system.
Integration
The ECS-FD400 integrates traditional TDM functionality, VoIP/ToIP and messaging services in one unique communication system.
Applications
Thanks to open standards new third party applications can be developed and integrated into the ECS-FD400 communication system.
Availability
The CPU and power supplies can be duplicated to increase the availability of the system for critical applications in utility and transport networks.
Numbering Plan
Flexible numbering plan with up to 6 digits including incoming and outgoing numbering conversion to be completely flexible in any multi-site private network.
Capacity
Each rack has 15 free universal slots for peripheral boards. A maximum of 8 racks can form a system. Total 1512 VoIP ports and upto 2016 TDM circuit ports can be installed into one single system.

Maintenance
Boards are hot plugable without a major disturbance of telephone traffic. Software tools are delivered with the system to allow diagnostics and maintenance of the ECS-FD400. Standard in built test routines for fault detection, localisation, isolation and reporting of faults.
WEB based management system and Real Time alarm management are application module which reduce maintenance cost.

Extension Interfaces
- Analogue line card with 16 circuits/board DTMF Q.21 or decadic dialing
- Digital line card with 16 circuits/board, 2W proprietary protocol
- 4W S0 ISDN subscriber line board according to ITU-T Q.931 4 circuits/board

Inter PBX Tie-Lines
- Analogue tie-line 2/4W E&M 8 circuits/board
- E1 Interface with QSig
- 2.048 Mbit/s PCM-30 Interface according to ITU-T G.732

PSTN Interfaces
- Subscriber Signalling: with 12/16kHz meter pulse detection and emergency switch over 8 circuits/board
- Channel associated 2MBit/s
- ISDN Basic Rate 2B+D
- ISDN Primary Rate 30B+D

LAN Interfaces
LAN: Ethernet 10/100Mbit/s

IP Networks
Integrated gateway with voice and data transport, signalling on LAN and WAN based on MGCP and SIP standard.

VoIP features
- Integrated SIP server for SIP telephone extensions
- VoIP SIP or H.323 interconnection of PABX systems
- Allows SIP networking between PABX systems using QSig encapsulation
- T.38 Fax relay CODEC
- Standard SIP terminals can be connected to the system providing basic telephone features
- Proprietary HW/SW LAN extensions with full telephone features are available
- Backup of VoIP calls through ISDN/ PSTN network.
- Dual Homing of SIP/LAN Extensions

- **Hybrid IP/TDM PABX system specially designed for utility, oil and gas and transportation networks**
- **Max. 1000 SIP and 2016 TDM ports in max 8 shelves**
- **Redunndant CPU and power supplies**
- **Management System with SNMP**
- **19" rack housing**
- **Low power consumption**
- **Integrated SIP Server**

Touch Screen Console for Operators and Dispatchers

BLUE Com
Telecommunications

For further information please contact:

BlueCom AG
Giessenstrasse 15
CH-8953 Dietikon
Switzerland
Tel.: +41 44 748 48 18
Fax: +41 44 748 48 19
E-mail: sales@bluecom.ch
Internet: http://www.bluecom.ch

PABX SYSTEM
ECS-FD400

Capacity
15 universal slots/shelve
in maximum of 8 shelves giving a total of 1512 VoIP and 2016 TDM ports

Power Supply
The ECS-FD400 can be powered from a 48V DC power supply:
Input voltage range
Battery: 48 VDC, 42 - 58 VDC

For 220V AC supply an external converter can be provided.

Power Consumption
Idle :26W/shelf
Busy hour :150W /shelf

Customer Data Back-up
Customer Data is stored in EEPROM

Attendant Console
Desk top
digital two wire connection
max. 8 consoles per system
blind operator available

Ambient Conditions
Operating range : -5° to +45°C
Transportation
and storage : -25° to +55°C
Humidity
(non condensing) : 5 to 90% Rh

Electromagnetic Compatibility
The ECS-FD400 system conform to the European Community recommendation EMC 89/336/CEE
and to the following European standards:
EN 50082-1 (IMMUNITY)
EN 55022 (RADIO FREQUENCY)
EN 60950 (ELECTRICAL SAFETY)

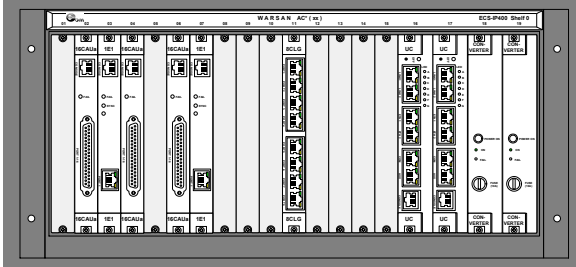
Mechanical
Dimensions 19" rack
(h x w x d) : 220 x 483 x 340 mm
(5HE units)
Weight: 25 kg fully equipped

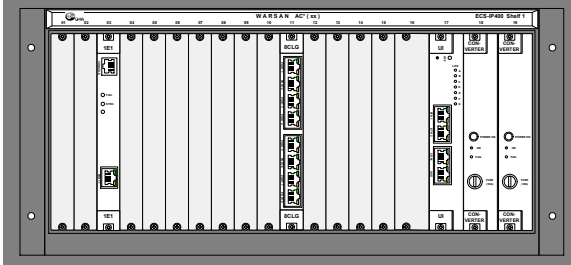
System Services
- Abbreviated Dialling
- Add-On Conference
- Attendant Call Distribution
- Automatic Call Back
- Automatic Hold
- Automatic Line Blocking
- Break In
- **CLIP on analog phones**
- Callback on no reply
- Call for assistance
- Call waiting
- Direct Dialling In
- Direct Dialling Out
- Distinctive Ringing
- Do Not Disturb
- Enquiry
- Extension/Attendant
- Class of Service
- **Forced Release**
- Hot Line Call
- Hunt Groups
- **Intrusion**
- Last Number Redial
- Line Bundle
- Paging Service
- Section Dialling

Digital Telephone Services
- Automatic Answering
- Caller Name and Number Display
- Class of Service Display
- Dialled Number Display
- Function Keys
- Hands-Free
- Loudspeaker
- Priority Trunks
- On Hook Dialling
- Telephone Diagnostics
- Time Display

Data Services
- Automatic Answering
- Automatic Callback
- Automatic Line Blocking
- Dialling from Telephone and from Terminal/Host
- Direct Internal Call
- Flexible Data Numbering Plan
- Forwarding

Special Services
- Auxillary Alarms
- Detailled Billing
- Equipment Diagnostics
- External Alarms
- Local / Remote Supervision
- Major and Minor Alarm Signals
- Remote Configuration
- Remote Maintenance





Rack Layout of ECS-FD400 with two shelves and redundancy. (Max. 8 shelves/system)

Netfon 100
VoIP telephone set with integrated 2 port 10/100Tx switch

Netfon 300
VoIP telephone set with integrated 2 port 10/100Tx switch

Netfon 500
VoIP telephone set with integrated 2 port 10/100Tx switch

BlueCom Telecommunications

For further information please contact:

BlueCom AG
Giessenstrasse 15
CH-8953 Dietikon
Switzerland
Tel.: +41 44 748 48 18
Fax: +41 44 748 48 19
E-mail: sales@bluecom.ch
Internet: http://www.bluecom.ch

Due to continous product improvements this specification is subject to change without notice. BCfd300.DS.E0.06.04 Printed in Switzerland