

MITEL

3300 | Integrated Communications Platform



Providing feature-rich IP telephony and advanced user applications to corporate local and wide area networks (LAN / WAN)

Controllers

	3300 CX/CXi Controller	3300 MX Controller	3300 LX Controller
Typical total number of phones (IP / TDM / Analog)	64 IP (8 analog)	200	1400
Shipped equipped with (standard):	One dual DSP module (integrated) 12 echo cancellers Three empty MMC slots	One quad DSP module 64 echo cancellers Three empty MMC slots	Two quad DSP modules 128 echo cancellers Five empty MMC slots
Maximum embedded digital trunk modules	2**	2*	3*
Maximum embedded BRI modules (EMEA and Australia)	2	3	3
Maximum ACD agents	50	100 total: Max 50 IP	300 total***
Maximum consoles	8	8	16
10 / 100 Base T Ethernet ports	see CXi Controller Data Connectivity section	1	4
Maximum quad DSP modules	1	3	5
Maximum echo cancellation channels	64	64	128

Note: Empty MMC slots can be used for DSP Modules, Dual FIM modules (to the maximum amount specified), echo canceller modules and embedded digital trunk modules. Please note that when peripheral nodes are connected to additional Dual FIM modules, there must be sufficient telecom resources to support them. Please contact your sales engineer for detailed information.

- * Dual embedded digital trunk module
- ** Single embedded digital trunk module
- *** Engineering rules apply



it's about **YOU**

	3300 CX/CXi Controller	3300 MX Controller	3300 LX Controller
Maximum G.729a compression channels (One license required per eight channels) Every 32 channels requires a DSP module	32 optional	32 Optional	64 Optional
Max number of NSUs	0	4	8
Maximum number of digital links (except BRI)	2	8	16
Maximum Number of Dual FIMs (To connect to a TDM peripheral unit, NSU,DSU or Mitel SX-2000 MicroLIGHT Triple FIM Card)	0	One Dual FIM Two FIM links	Four Dual FIMs Eight FIM links
Maximum number of ASUs	0	2	4
Maximum number of peripheral cabinets	0	2	8
Maximum number of peripheral cabinets plus peripheral expansion cabinet	0	4	16
Tone generators	128	128	128
Tone detector circuits	32	32	32
E2T channels	64	64	128
DTMF receivers	128	128	128
BRI U interfaces (with NSU)	0	30	60
Embedded BRI module S and/or T interfaces (EMEA and Australia only)	16	24	24
Max total analog and digital trunks	72	272	544
IP networking – Max IP trunks between any two controllers	200	200	200
IP networking – Total max IP trunks	2000	2000	2000
Maximum nodes in a cluster	250	250	250

CXi Controller Data Connectivity

Integral 16 port powered L2 10/100 ethernet switch

Has additional 10/100/1000 Ethernet uplink port

- Provides connection to additional switch ports and router

Also has WAN Port that is an "Internet Gateway"

- WAN port provides connection to an ISP for Internet access (eg. DSL or cable)
- WAN port provides NAT and Firewall capabilities
- WAN port does not support IP Networking

Use external router for IP Networking

- Same as you would with a CX, MX and LX Controller

Embedded Applications

Embedded Voice Mail

- MX/LX Controller: 20 ports standard, 30 ports optional (needs additional DSP)

CX/CXi Controller: 4 ports standard, expandable to 16 ports

- 750 mailboxes max
- 450 storage hours
- MX/LX Controller: 30 simultaneous Auto Attendant or VM sessions (20 is standard, 30 requires additional DSP)

CX/CXi Controller: 4 ports standard, expandable to 16 ports

- 100 max messages per mailbox
- Two concurrent system languages
- Multi level options – eight single digit (unlimited multi-digit), maximum of 10 levels

Embedded ACD

- 1181 Agent ID's
- 300 total logged-in agents
- 256 paths
- Either 64 agent groups (150 agent IDs per group) OR 32 agent groups (500 agent IDs per group)

Embedded Wireless

- SpectraLink 802.11b** or Mitel IP-DECT* wireless phones supported
- Use as a gateway to: add wireless functionality to a legacy PBX
- 802.11b or IP-DECT access points supported
- Custom integration with SpectraLink or IP-DECT MiNet wireless phones

* IP-DECT available in Europe only

** 802.11b access points must be SpectraLink SVP compliant

IP Networking

- Support G.711 and G.729 compression
- Connect up to 250 other network nodes

- Total of 2,000 IP Network connections supported to / from any one node
- Up to 200 connections between any two nodes
- One IP network license required per controller

Digital Trunk Connectivity

Universal NSU

- Connects to controller via a FIM link
- A second NSU can be daisy chained from the first NSU via CIM (allows two NSUs per FIM link)
- Each NSU supports two digital links
- Both links in an NSU must run the same protocol (T1 / D4 or MSDN / DPNSS or PRI / QSIG)

Supports:

- T1 CAS (T1 / D4) – digital E&M, digital CO, digital DID
- T1 CCS – Primary rate ISDN, XNET over PRI, QSIG, MSDN / DPNSS
- E1 – QSIG, Euro ISDN, XNET over PRI, DASSII, MSDN / DPNSS

Dual Embedded Digital Trunk Module (MX/LX Controller)

- Each module has two E1/T1 trunk interfaces (links)
- Provides PRI / QSIG / T1-D4 protocol through the controller (no NSU required)
- Each interface can run a different protocol, either PRI, QSIG, or T1/D4

Does not support:

- Min / Max, NFAS, D channel backup, MSDN or TDM XNET (Hybrid XNET is supported)

Single Embedded Digital Trunk Module (CX/CXi Controller)

- Each module has a single E1/T1 trunk interface (link)
- Provides PRI / QSIG / T1-D4 protocol through the controller (no NSU required)

Does not support:

- Min / Max, NFAS, D channel backup, MSDN or TDM XNET (Hybrid XNET is supported)

BRI NSU

- North American variant supports line side BRI only
- European variant supports both line and trunk side BRI
- Each NSU supports 15 BRI U-interfaces
- Connects to the 3300 ICP through a universal NSU
- Cannot be chained

Supports:

- Euro-ISDN, 2B+D, North American National ISDN-1, ISDN-2

Embedded BRI Module*

The Embedded BRI module has four ports supporting four Basic Rate Circuits (total 8 – 64kbs channels)

Each channel may be configured as either a:

- T (trunk) interface for links from a BRI Central Office (CO)
- S (subscriber) interface for connecting up to eight BRI devices

Note: S interfaces support only basic call features such as calling number display for BRI devices. (BRI call handling such as Hold or Transfer are not supported.) BRI devices are not line powered from the embedded BRI module.

R2 NSU

- Each R2 NSU supports two links
- Connects to controller via a FIM link
- Chain two NSUs together via CIM

Analog Connectivity****Analog Service Unit (ASU)**

- Connects to the controller via CIM
- Supports 24 analog CLASS*** stations

Universal ASU

- Connects to the controller via CIM

Supports:

16 analog CLASS stations

Four LS trunks

Music-On-Hold (one source supported)

Paging (two paging zones per ASU)

System Fail Transfer (qty. four per universal ASU)

Embedded Analog (MX, CX and CXi Controller)

- Built into MX, CX and CXi Controllers

Supports:

Six LS CLASS**** trunks

Two (MX Controller) / Four (CX/CXi Controller) analog CLASS stations

Music-On-Hold (one source supported)

Paging (one paging zone)

System Fail Transfer (two circuits)

- Analog Option Module

- One optional per MX, CX/CXi Controller

Supports:

Six LS CLASS trunks

Two (MX Controller) / Four (CX/CXi Controller) analog CLASS stations

* EMEA and Australia only

** See Analog Cards in the SX-2000® peripheral cabinet

*** Analog extension ports support CLASS signaling for North America and Latin America, and Euro ETSI for name and number identification

**** Analog trunks support CLASS signaling for Latin America and North America

TDM Connectivity

SX-2000 Peripheral Cabinet

- Connects via Dual FIM module which supports two peripheral nodes each
- 12 peripheral interface cards per node
- Max 192 analog or DNI ports
- Can add an expansion cabinet to a node – this provides a total of 384 ports or 24 peripheral interface cards

Supports:

DID / loop tie card (four ccts / card)

DNIC line card (16 ccts / card)

DTMF receiver card (16 ccts / card)

E&M trunk card (four ccts / card)

LS/GS trunk card (eight ccts / card)

Analog, analog CLASS, analog CLASS / CLIP line cards
(16 ccts / card)

OPS line card (eight ccts / card)

Dimensions

	Controller	ASU / Universal ASU	NSU	Peripheral Node
Height	MX/LX Controller – 2.7 in (7 cm) (1.5 U) CX/CXi Controller – 3.5 in (8.9 cm) (2U)	1.75 in (4.454 cm) (1U)	1.75 in (4.454 cm) (1U)	19.0 in (48.0 cm)
Width	17.75 in (45.1 cm) (19" rack mountable)	17.75 in (45.1 cm) (19" rack mountable)	17.75 in (45.1 cm) (19" rack mountable)	18.0 in (45.8 cm)
Depth	LX Controller – 15.5 in (39.4 cm) MX Controller – 19.6 in (50 cm) CX/CXi Controller – 16.5 in (41.9 cm)	15.5 in (39.4 cm)	15.5 in (39.4 cm)	19.0 in (48.0 cm)
Weight	LX Controller – 15.8 lb (7.17 kg) MX Controller – 14 lb (6.39 kg) CX/CXi Controller – 19.8 lb (8.98 kg)	10.61 lb (4.81 kg)	8.41 lb (4.27 kg)	71.8 lb (32.6 kg)

Operational Environment

	Controller	ASU / Universal ASU	NSU	Peripheral Node
Temperature	41° to 122°F (5° to 50°C)	41° to 122°F (5° to 50°C)	41° to 122°F (5° to 50°C)	32° to 122°F (0° to 50°C)
Humidity	40-90% relative humidity, non condensing	34-95% relative humidity, non condensing	34-95% relative humidity, non condensing	5-95% relative humidity, non condensing
Max Heat Dissipation – Fully Loaded	LX Controller – 750 BTUs per hour MX Controller – 500 BTUs per hour CX/CXi Controller – 170 BTU per hour	170 BTUs per hour	170 BTUs per hour	724 BTUs per hour
Air Flow	46 cubic ft / min at max output of fans		150 cubic ft / min at max output of fans	
Acoustic Emissions	Max 50dBA continuous, 75 dB intermittent (<10% duty cycle)		Max 50dBA 75 dB intermittent (<10% duty cycle)	

Conversion factors: one watt is equal to 3.412 BTUs per hour. One ton of refrigeration is equal to 12,000 BTUs per hour or 3.516 Kilowatts, and 0.75 kilowatt-hour is equal to one ton of refrigeration.

System Input Power Requirements

	Controller	ASU/Universal ASU	NSU	Peripheral Node
Input/Disconnect	IEC320–C14 Class 1 AC Receptacle	IEC320–C14 Class 1 AC Receptacle	IEC320–C14 Class 1 AC Receptacle	IEC320–C14 Class 1 AC Receptacle
Input Voltage / Frequency Rating	100–240 VAC 50/60Hz	100–240 VAC 50/60 Hz	100–240 VAC 50/60Hz	102–120 VAC 50/60 Hz MP914AA PSU variant 200–240 VAC 50/60 Hz MP914AD PSU variant
Input Power	MX Controller – 100 W LX Controller – 135 W CX/CXi Controller – 250 W	60W maximum	60W (Universal and R2) 30 W (T1/E1)	212 W maximum 60 W (BRI)
AC Source Range	90–64 VAC 47–63 Hz	90–264 VAC 47–63 Hz	90–64 VAC 47–63 Hz	102–132 VAC 47–63 Hz or 187–264 VAC 47–63Hz depending on variant

Grounding Requirements

The grounding conductor must be an insulated grounding conductor, sized according to the National Electrical Code (NEC) in the United States (NFPA / ANSI 70 Section 250–95, Exception. No. 1, and Section 240-4, Exception No. 1).

The grounding conductor is provided as part of the three-wire, 15-Amp, AC-power cord set included with the equipment. If the power cord must be replaced, use a power cord of the same gauge that has the same insulation, number of conductors, and usage ratings.

The grounding conductor must be:

- Not smaller in size than, and equivalent in insulation material and thickness to, the grounded and ungrounded branch circuit supply conductor
- An insulated green wire with yellow stripes
- Part of the circuit that supplies that product or system
- Connected to ground at the service equipment

The protective grounding conductor must comply with the general rules for grounding contained in Article 250 of the National Electrical Code, NFPA 70, or Section 10 of the Canadian Electrical Code, CSA C22.1. The protective grounding conductor must not depend on the power cord and plug of the product.

The protective grounding conductor must be:

- An insulated wire, #6 (13mm²) to #14 (2mm²) AWG, with green and yellow stripes
- Connected to the grounding stud on the back of the cabinet

Glossary

ACD	Automatic Call Distribution
ASU	Analog Services Unit
BRI	Basic Rate Interface
BTU	British Thermal Unit
CAS	Channel Associated Signaling
CCS	Common Channel Signaling
CIM	Copper Interface Module
CLASS	Custom Local Access Signaling Services
DASSII	Digital Access Signaling System #2
DID	Direct Inward Dial
DNI	Digital Network Interface
DPNSS	Digital Private Network Signaling System
DSP	Digital Signal Processor
DTMF	Dual Tone Multi-Frequency
FIM	Fiber Interface Module
IP	Internet Protocol
ISDN	Integrated Services Digital Network
LS	Loop Start Trunk
MMC	MITEL Mezzanine Card
MOH	Music on Hold
MSDN	Mitel Superswitch Digital Network
NFAS	Non-Facilities Associated Signaling
NSU	Network Services Unit
OPS	Off Premises , long loop analog PBX ports
PRI	Primary Rate Interface, ISDN
QSIG	Q – Signaling Protocol
VM	Voice Mail
XNET	Switched Networking

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