

Megaplex-2100/2104 with CL.2

System Version 8.xx



SUPPORTED MODULES

- The following table presents all the main link, I/O and system modules, supported by the Megaplex-2104 (2U-high) and Megaplex-2100 (4U-high) systems with the Version 8.xx CL.2 common logic. For full module details and ordering information, see individual module data sheets.

MODULE NAME	DESCRIPTION
<i>Main Link Modules</i>	
ML-1E1, ML-2E1 <i>Enhanced</i>	Single/dual copper E1 interface main link modules. Support full cross-connect, bypass, R2 CAS signaling, diagnostics and statistics. Equipped with integral user-enabled LTU. Station clock interface provided. Enhanced diagnostics with loopbacks, BERTs and tone injection per timeslot. Can display the signaling bit state of any timeslot carrying voice channel signaling.
ML-1T1, ML-2T1 <i>Enhanced</i>	Single/dual copper T1 interface main link modules. Support full cross-connect, bypass (including multiframe synchronization), diagnostics and statistics. Equipped with integral user-enabled CSU. Station clock interface provided. Enhanced diagnostics with loopbacks, BERTs and tone injection per timeslot. Can display the signaling bit state of any timeslot carrying voice channel signaling.
MLF-1E1, MLF-2E1 <i>Enhanced</i>	Single/dual E1 interface main link modules with built-in fiber optic modems. Available with various fiber optic interface/connector combinations. Station clock interface provided (single link module only). Support same features as described for ML-1E1/ML-2E1 above.
MLF-1T1, MLF-2T1 <i>Enhanced</i>	Single/dual T1 interface main link modules with built-in fiber optic modems. Available with various fiber optic interface/connector combinations. Station clock interface provided (single link module only). Support same features as described for ML-1T1/ML-2T1 above.
MLH-2E1 <i>Enhanced</i>	HDSL technology dual-E1 main link module extends the range of Megaplex up to 4.0 km (2.5 miles) over existing copper lines. Available with either 4-wire or 2-wire interface. Supports same features as described for ML-1E1/ML-2E1 above.
ML-IP <i>NEW</i>	Provides standard 10/100BaseT Ethernet connectivity for Megaplex, complying with all relevant IEEE Ethernet LAN standards. Uses RAD's TDMoIP technology to convert the Megaplex TDM bit stream into IP frames for transmission over IP networks and is fully compatible with the IPmux family of TDMoIP Gateways. Features two Ethernet uplinks with a combined payload of 16 kbps to 4 Mbps, and an additional Ethernet user port, all with UTP interfaces. Other ML-IP modules can be interlinked to connect multiple LANs via a single IP network link, or to increase the number of timeslot bundles available, as well as to increase the TDMoIP payload per Megaplex unit to 8 Mbps.

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MODULE NAME	DESCRIPTION
<i>Low Speed Data Modules</i>	
LS-2A	Data module with ten synchronous/asynchronous V.24/RS-232 channel interfaces for X.50 and SDM, or six synchronous channel interfaces for X.58, with data rates from 2.4 to 19.2 kbps per channel. Each module transmits over a single timeslot only, so modules work together in groups to transmit 20 x 2.4 kbps or 10 x 9.6 kbps channels (X.50, SDM); 24 x 2.4 kbps or 12 x 4.8 kbps channels (X.58).
LS-2A/2TS	Similar to LS-2A module for X.50, but can transmit the channels over two timeslots. Thus a single module can support all ten channels, even at 9.6 kbps channel rate. Alternatively, four channels can be supported at 19.2 kbps rate by a single module (plus another two channels at 9.6 kbps).
LS-2/M	Six synchronous data channels with built-in short-range modems; operates at channel rates from 2.4 to 19.2 kbps, using X.50 multiplexing. Compatible with RAD's SRM-8 miniature modems.
LS-6	Six sync/async V.24/RS-232 data channels, with independent data rates from 0.3 to 64 kbps.
LS-12	12 sync/async V.24/RS-232 data channels, with independent data rates from 2.4 to 64 kbps. Supports end-to-end control signal and BERT. Channels are bundled into two groups, each of which can be directed to a different main link.
HS-R	Four low speed sync/async data channels with data rates up to 64 kbps (sync) or 38.4 kbps (async), performing V.110 rate adaptation.
<i>High Speed Data Modules</i>	
HS-2	Data module providing two high speed synchronous channels with V.35 or V.11/RS-422 (for V.36/RS-449, RS-530, X.21) interface, at data rates of n x 56 or n x 64 kbps.
HS-3	Functionally the same as HS-2, but with three high speed synchronous data channels. All channels are terminated on a single 50-pin TELCO female connector.
HS-Q	Functionally the same as HS-2, but with four high speed synchronous data channels. All channels are terminated on a single 50-pin TELCO female connector.
HS-Q/N	Four high speed synchronous data channels, each terminated by a 26-pin SCSI connector. Supports enhanced clock modes and BERT. Channels can be directed to either of two main links
HS-Q/M	Four tail-end data channels, operating at data rates of 56 and 64 kbps. Each channel includes a built-in short range modem compatible with SRM-8H.
HS-703	Four 64 kbps G.703 codirectional data channels.
HS-S	Four ISDN "S" interface (2B+D) channels, operating as an ISDN channel extension, and providing ISDN leased line services over "S" interface, including power feeding.
HS-U	Four ISDN "U" interface (2B+D) channels; for "last mile" solutions at ranges up to 5.5 km (3.4 miles) and for ISDN channel extension, including power feeding for remote NT-1. Automatic configuration download support for connected ASMi-31 modems. Full-duplex management support, including remotely initiated BERTs and loopbacks, for ASMi-31-2 version modems.
HS-U-6, HS-U-12	Similar to HS-U module above, but with 6 or 12 ISDN "U" interface (2B+D) channels. Use octopus cables to split modules' single high density 50-pin SCSI connector into standard RJ-45 channel connectors.
HSH-2E1	Dual-channel I/O module with integrated HDSL modems, that enable connection of user equipment at E1 rates for distances up to 4.0 km (2.5 miles) over existing copper lines. Available with either 4-wire or 2-wire interface.

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<i>Internetworking Modules</i>	
MBE	Ethernet IP/IPX router and bridge supporting data rates up to 1.5 Mbps. Supports connection of up to 256 remote workstations in bridge mode; unlimited number of remote workstation connections in router mode. Available with UTP, BNC or AUI interface.
HS-ETH <i>Enhanced</i>	4-channel Ethernet bridge supporting n x 56/64 kbps data rates (up to 1.984 Mbps) per channel. Provides high performance, remote, self-learning Ethernet bridge channels with UTP interface. Supports VLANs.
<i>Voice/Fax Modules</i>	
VC-2	Four analog voice channels using 64 kbps PCM encoding; E&M, FXS, FXO interface options. Supports various loop-start applications. Versions available that support PSTN applications, or wink-start signaling and pulse-metering for public payphone applications.
VC-2/R2	Four analog voice channels supporting R2 CAS signaling. Enables connecting Megaplex through an E1 network to a central office switch supporting R2 CAS.
VC-Q	Four independent analog voice channels. Each channel is encoded using 64 kbps PCM or 32 kbps ADPCM compression; with ADPCM, two channels occupy a single timeslot.
VC-6	Six analog voice channels using 64 kbps PCM encoding; E&M, FXS, FXO interface options.
VC-6A	Six analog voice channels using 64 kbps PCM or 32 kbps ADPCM compression. Versions available to support loop-start as well as ground-start, or pulse-metering and wink-start signaling; E&M, FXS, FXO interface options.
VC-6A/4LB	Four analog voice channels used to connect between 2-wire local battery-powered (LB) military-type field telephones at different remote locations, either in point-to-point connections, or via PBX extension lines.
VC-8, VC-16 <i>NEW</i>	8 or 16 analog voice channels using 64 kbps PCM encoding, with E&M, FXS or FXO interface options. Support various loop-start applications. Versions available that support PSTN applications, or wink-start signaling and pulse-metering for public payphone applications. VC-16 enables a single Megaplex-2100 unit to support up to 120 PCM voice channels (or up to 60 channels with Megaplex-2104).
VC-16A	16 analog voice channels using 64 kbps PCM or 32 kbps ADPCM compression. VC-16A transmits voice without any channel signaling, thus it is intended primarily for basic point-to-point applications which do not require signaling, or use only in-band signaling (such as DTMF). Enables single Megaplex-2100 unit to support up to 160 ADPCM voice channels (or up to 64 channels with Megaplex-2104).
VF-3	Three compressed analog voice channels using MPMLQ encoding algorithm at 9.6 kbps, or proprietary CELP algorithm at 4.8 kbps; automatic Group III fax detection and relay is supported by all channels.
VF-PBX	Six compressed E1 digital voice channels using MPMLQ encoding algorithm at 9.6 kbps, or proprietary CELP algorithm at 4.8 kbps; automatic Group III fax detection and relay is supported by all channels. Five modules can be grouped together to support an entire E1 trunk. Note: T1 trunks can be partially supported by VF-PBX.

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MODULE NAME	DESCRIPTION
<i>System Modules</i>	
CL.2 (Ver.8.xx) <i>Enhanced</i>	CL.2 common logic module for MP-2100/MP-2104. Available with choice of Ethernet BNC, Ethernet UTP or V.24 port for management. Can be ordered separately to provide redundancy for the CL module supplied with chassis, or for upgrading older systems. Note: Contact your local distributor for more information about system upgrades.
ACM	Alarm and diagnostics module with four outbound relays for reporting internal alarms to outside indicators such as bells, buzzers, etc. Eight inbound sensors enable external alarms or conditions, to be reported to Megaplex system. Integral BERT generator enables data channel diagnostics (initially for HS-S and HS-U modules).
PS-180/AC	AC high power supply module for MP-2100 chassis. Models available for 100, 115 or 230 VAC input. Can be ordered separately to provide redundancy for power supply module supplied with chassis.
PS-180/DC	DC high power supply module for MP-2100 chassis. Available for -48 VDC input. Can be ordered separately to provide redundancy for power supply module supplied with chassis.
<i>Ringers</i>	
Ringer-2100R, Ringer-3000R	DC power supply modules used to provide the DC feed and ring voltages required for certain voice/fax modules or phantom feeding for ISDN modules installed in MP-2100 chassis. (MP-2104 chassis can be ordered with a built-in ringer.) Support up to 32 voice channels.
Ringer-2000	DC power supply standalone unit used to provide the DC feed and ring voltages required for certain voice/fax modules or phantom feeding for ISDN modules used by Megaplex. Can be mounted in 19" rack. Supports up to 60 voice channels.
Ringer-2200	Enhanced DC power supply standalone unit used to provide the DC feed and ring voltages required for certain voice/fax modules or phantom feeding for ISDN modules used by Megaplex. Can be mounted in 19" rack. Supports up to 120 voice channels.

MANAGEMENT

- One of three management platforms can be used with the Megaplex-2100/2104 systems with Version 8.xx CL.2 common logic:
 - ASCII terminal, or IBM PC (or compatible) with V.24/RS-232 interface emulating an ASCII terminal
 - RADview-HPOV/TDM Version 4.6 – Network Management application on HP OpenView UNIX platform



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