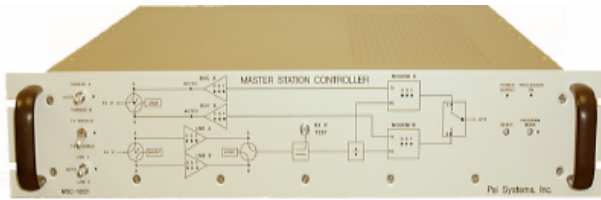




# Master Station Controller – A Brief Description

The MSC family of products provides a cost-effective means for monitoring and control of single thread VSAT or mid-sized earth stations. Each MSC product has responsibility for overall control of VSAT earth station equipment, employing single thread or redundant Block UpConverters (BUCs), Low-Noise Block Converters (LNBs), and SCPC or TDM/TDMA satellite modems. The MSC can monitor the status of each component and create a switchover to a hot-standby component when a fault condition is present on the primary component.

Two varieties of MSC are available – the MSC-1001 and the MSC-500.

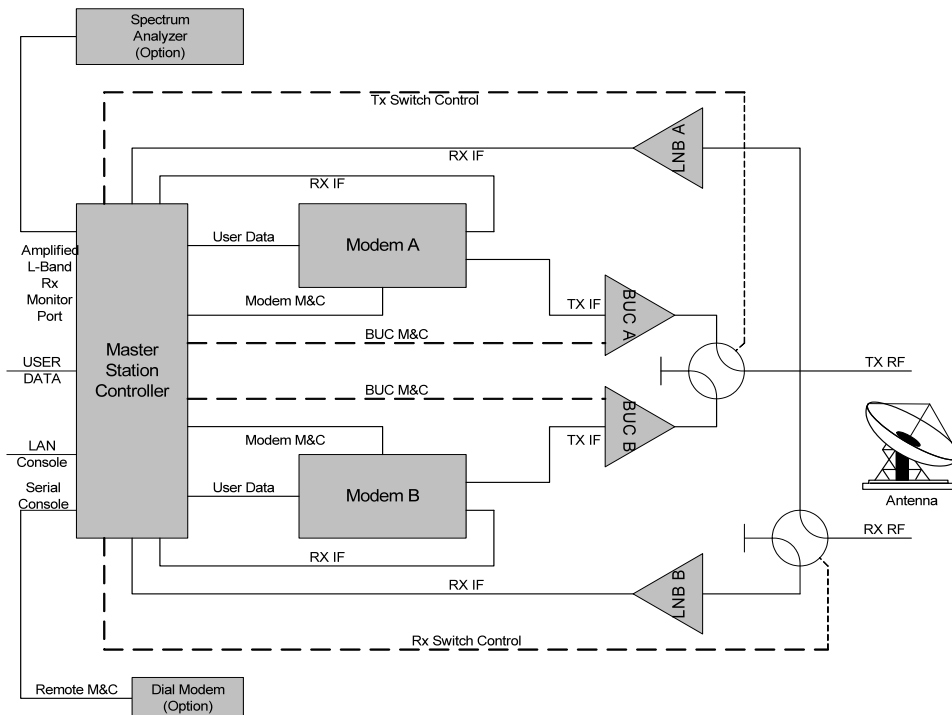


MSC-1001 (front and back panel)



MSC-500 (front panel)

A block diagram of a VSAT system incorporating an MSC is shown in the following figure.





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A modem and a BUC form a single transmit thread. Switching occurs only on the RF output of the BUC, and on the data side of the modem. The MSC performs the data switching, and provides the control for the RF transmit switch, which is located with the BUCs at the antenna location. The MSC also has status connections to the modems, BUCs, and RF switches.

On the receive side, the MSC takes the signal from the online LNB and splits it to feed both modems, while allowing DC power to pass from Modem A to LNB A, and from Modem B to LNB B. The MSC provides the control for the receive waveguide switch, where LNBS are mounted.

The MSC provides a common point of control for all of the earth station equipment. The MSC monitors the status of the Modems, BUCs, and LNBS, and affects a switchover when a fault condition is present in the online equipment. Front panel LED indicators provide information regarding the operation of the system. Front panel switches may be used to provide manual override equipment selection, and to force the BUCs to a Mute (transmit disabled) condition. In addition, the rear panel provides a console port that is used by installation and maintenance personnel in order to configure and diagnose the system. The same console is accessible by a Telnet connection through an 802.3 Ethernet port on the back of the MSC.

### Key MSC Features

- Support for numerous Comtech SCPC and iDirect TDM/TDMA modem
- Support for many BUCs and LNBS including Mitec, Wavesat, Norsat, NJRC, Paradise, Sierracom

### MSC-500 Specifications

- Mechanical: 1U Chassis: 19" x 14" x 1.75"
- Electrical: 110/220 VAC: 50/60 Hz
- Environmental: 0 to 40°C: 0 to 95% humidity

### Key MSC-Benefits

- Managed Network Services Support – Enables transition from unmanaged to managed network services
- Multipurpose Functionality Support – Flexible utilization and diverse application support including
  - Remote M&C
  - Transponder "grooming"
  - Closed loop (i.e., surveillance)
  - Multitechnology Support
- Works with many different brands and variations of modems
- Remotely Accessible via any available IP link to a client's NOC
- Easily upgradeable with downline loadable software capability
- Customization – The MSC can be modified to support additional COTS RF/Modem products upon request