

PBS Satellite Operations Center

Supporting PBS' 24x7 Television Distribution Operations

Built in 1978, the PBS Satellite Operations Center (SOC) was the first television distribution center in the United States. Consisting of two buildings – a Technology Center and an administrative building – the SOC is the main transmission point for the PBS interconnection system, feeding programming to PBS' more than 350 member stations across the country and several U.S. territories.

PBS Technology Center

The PBS Technology Center, also referred to as the Satellite Operations Center, Building 1 (SOC-1), houses the critical core infrastructure that receives and stores program feeds; distributes content through satellite uplinks; and is home to all PBS information systems.

The SOC-1 operates 24 hours a day, seven days a week with a staff of around 30 engineers, operators and technicians. To ensure uninterrupted broadcast services, the facility's critical systems are fully redundant.

In total, the facility supports 12 program streams (five HD, seven SD), as well as a non-real time file delivery system transported as IP over satellite. It is outfitted with a 256x256 HD-SDI routing switcher with built in audio and video multiviewers, broadcast playout servers, computer automation, branding and control, a Quantum ADIC LTO tape library and an MPEG-4 compression system. Uplink services are provided through the latest DVBS2 modulators and klystron and TWTA amplifiers.

Additional PBS operations supported at the facility include networking, storage, backup, physical servers, virtual servers in support of databases, security, messaging, financials, file sharing, ftp and domain name services.

Following a recent renovation and expansion to provide reliable quality services to PBS member stations today and for years to come, the facility is now 12,022 square feet in size. It also includes a 200-foot tower that provides a bi-direction feed to PBS headquarters in Arlington, Va. and supports revenue-generating cellular services for AT&T and Verizon. In addition, dark fiber connects the facility to PBS headquarters, as well as to ISPs.



PBS Technology Center; at right are the "Ku" west and "receive only" dishes; at left is the microwave tower supporting the feed to/from PBS headquarters

PBS SOC Critical Systems

Mechanical:

- Three 100-ton air handlers
- Three FXT rooftop cooling towers
- Two 24000 CFM return air fans

Electrical:

- Two 1000 KVA utility power
- Two 500 KVA uninterruptible power supplies (UPS)
- Two 1 MW diesel generators with 600 gallon fuel tanks
- 6,000 gallon underground fuel storage tank

Satellite uplink:

- Two 9.1-meter "C" band uplink dishes
- Two 8.1-meter "Ku" band uplink dishes
- One 9.1-meter "receive only" dish
- Two 3.1-meter "receive only" dishes

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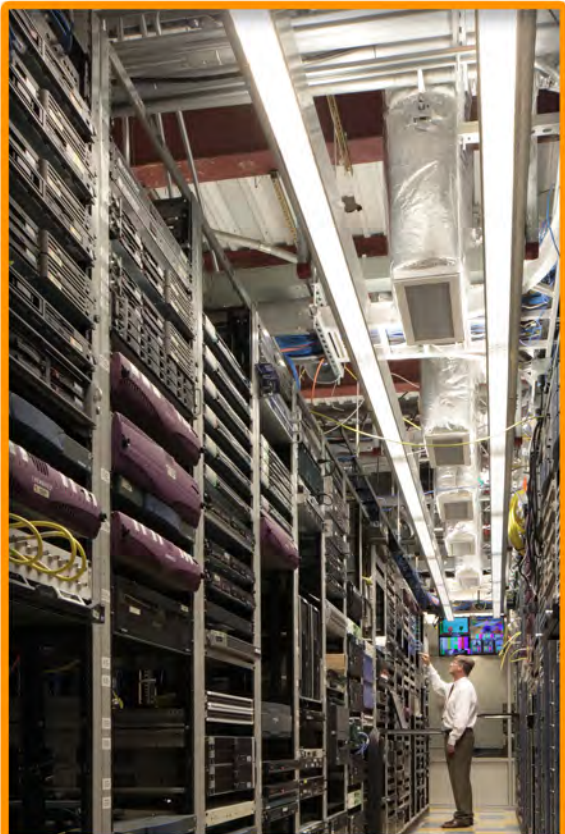
PBS Satellite Operations Center, Building 2

Serving as the on-site administrative office, the PBS Satellite Operations Center, Building 2 (SOC-2) consists of three stories and 30,000 square feet. Upon the facility's completion in 2006, personnel from Engineering, Technical Maintenance, Information Technology (IT) and Operations relocated from PBS' former Braddock Place office. Since then, other teams to join the facility include Technology & Operations Interconnection Engineering, as well as Network Operations & Engineering.

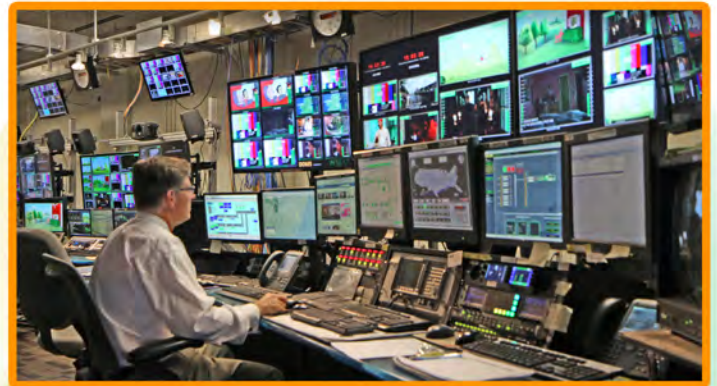
In total, over 100 PBS staff members work at the SOC-2. This includes the technicians who work in Technical Maintenance, responsible for maintaining Network Operations production and test bed systems, the Satellite Operations systems, the file based delivery system, and for providing tier one support for the power and HVAC systems in the SOC-1 building.

The staff members working on Interconnection Engineering also reside at the SOC-2. They are currently focused on development work on the 6th version of public television's interconnection infrastructure. Known as "v6," this system will connect stations, PBS and producers within the public broadcasting community to provide public television stations and distributors with new opportunities to transform their business.

The SOC-2 is also home to PBS' IT department, which consists of several teams that support technology infrastructure and operations initiatives for PBS as well as software development for PBS broadcast operations, intranet and extranet (known as myPBS), and business systems for producers, finance, human resources, legal, and others.



Technology Center Main Equipment Room (MER), which houses the critical equipment for content processing and playout, information technology and satellite uplink



Technology Center Main Control Room



Exterior view of the Technology Center Main Equipment Room (MER)

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