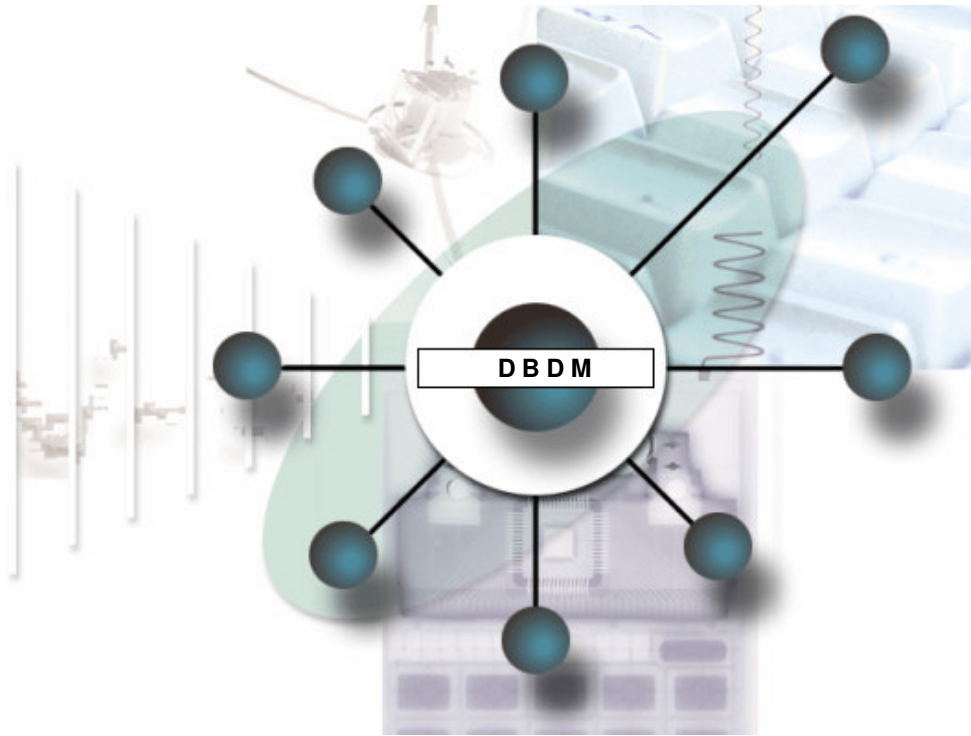


Digital Broadcasting Device Manager (DBDM)



MANAGEMENT AND MONITORING OF DIGITAL BROADCASTING DEVICES

CONCEPT

SDS's DBDM is a PC based application, providing a single point for the monitoring and control of devices used in the transmission of digital broadcasting services.

Devices managed by the DBDM support the following standards

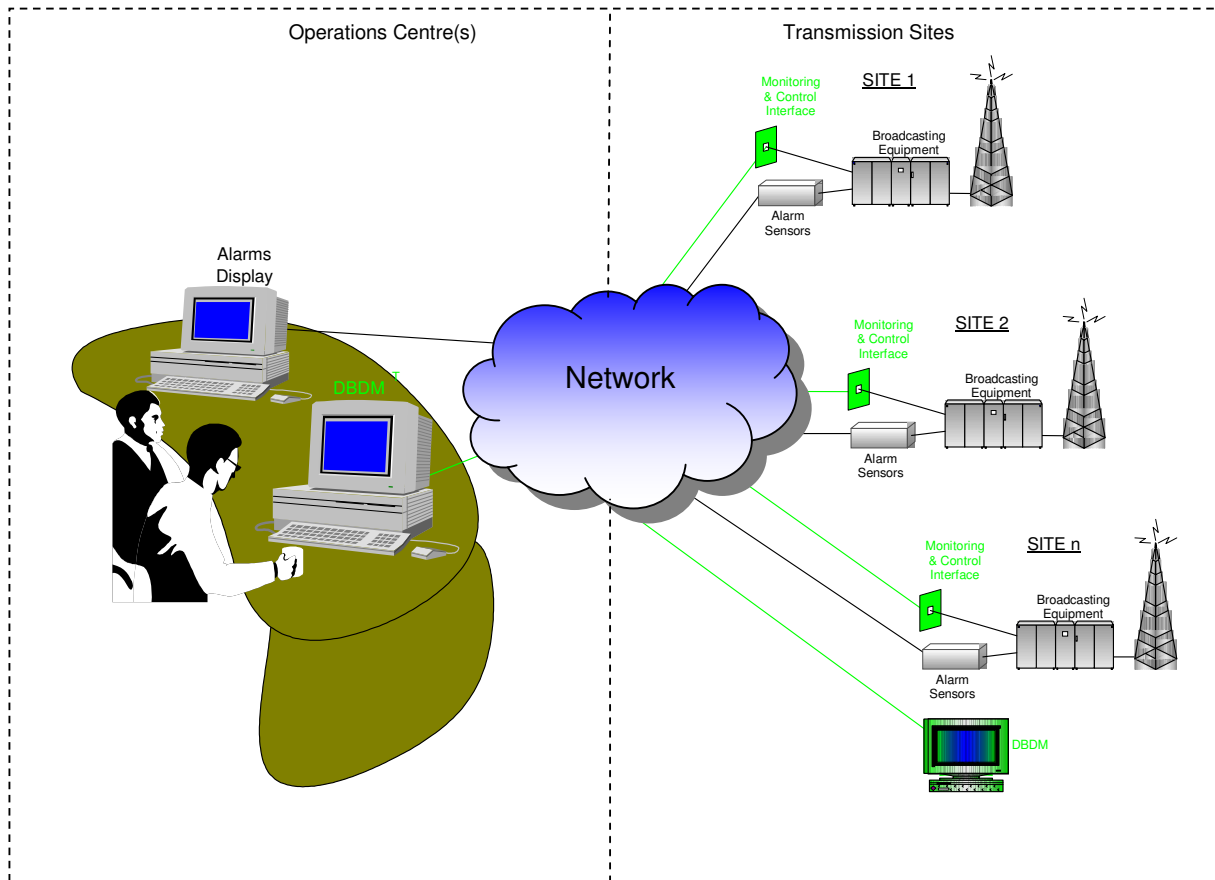
- DVB-T
- DVB-H
- DVB-S
- DVB-C
- DAB
- DBM

With its rich set of features, the efficient monitoring and control of remote devices saves time and cost of fault diagnosis and resolution.

It is a user-friendly and powerful application that allows technical staff located at one or more operations centres (or at transmission sites) to undertake a number of important tasks such as:

- Monitoring of the fault status of devices
- Remotely fixing faults
- Monitoring device configuration
- Reconfiguring devices
- Automated gathering of device status reports
- Display of fault logs
- Audit trails

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The example diagram above shows how **DBDM** interrelates with the other elements of a Digital Terrestrial Television system. Those functions provided by DBDM are shown in **green**.

In a typical configuration there would be a separate alarms system, this would alert an operator (via lights, buzzers or on-screen displays) in the event of an error condition arising. There may also be some automatic switch-over mechanisms at the transmission site that are triggered in the event of a fault.

Once the operator had been alerted to a fault then **DBDM** provides him with a powerful and easy to use set of functions to allow him to remotely interrogate the devices at the affected site to obtain detailed diagnostic information; once this diagnostic information had been analysed he may then use the remote control and configuration functions of **DBDM** to connect to the various devices in order to fix the fault.

DBDM achieves a connection with all remote sites via a TCP/IP telnet or SNMP connection, and maintains a database of all information regarding the devices, default values, users and so on. Through this connection the operator is provided with a wide range of functions for the control and monitoring of the various devices.

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Many different instruments, receivers, modulators and transmission devices are supported, additional device drivers can be readily added if required.

The primary uses of the application are to:

- Use a single application to access, control and monitor devices.
- Use a central database to store all device status and configuration information.
- Monitor the fault status of devices or transmissions to provide more detailed user friendly diagnostic information than is possible via the normal telemetry alarms
- Remotely fix faults found
- Monitor the configuration and support the re-configuration of devices, in particular, the default standard configurations for DTT sites
- Support configuration comparisons between devices and transmission content by allowing multiple access to several devices concurrently

Additional functions include:

- Planned configuration work, e.g. increase of power to an amplifier or configuring a replaced device to the standard settings
- Gathering of status reports from each site
- Maintaining an audit trail
- Display of fault logs
- Saving/Printing of the status, configuration, logs
- Access to named devices via a generic display
- MPEG2 Stream Analysis via Stream Explorer from R&S
- Hierarchy of access privileges for users
- Ability to communicate to each device via a full macro script language.
- Scheduling of macro scripts required for device polling or configuration changes.

Specification

User Interface Examples

Examples of the user interface for two typical functions are provided below.

Fig.1 shows how a device's fault status is displayed to the user. The display details the current status of the associated device using coloured LED icons. In addition a diagnosis area is provided at the bottom of the form detailing any information relating to the current fault status.

Fig.2 shows how a device's configuration status is displayed to the user. The display details the current configuration values of the device. Next to each of the values is the default that is stored within the database for the device type. If any values reported by the device differ from the defaults, they are highlighted in red. If the user has the necessary privileges to modify the specified device, then he is able to change the current device configuration.

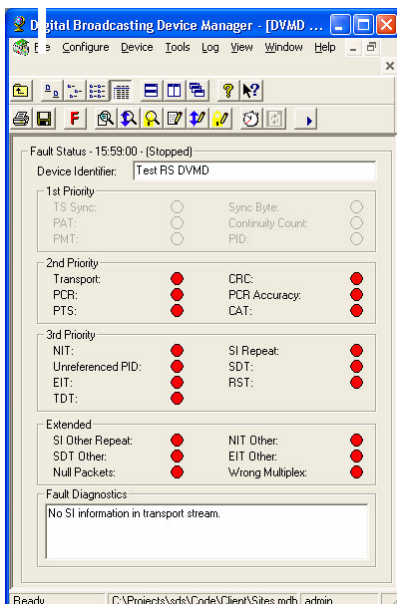


Fig. 1 – Fault Status

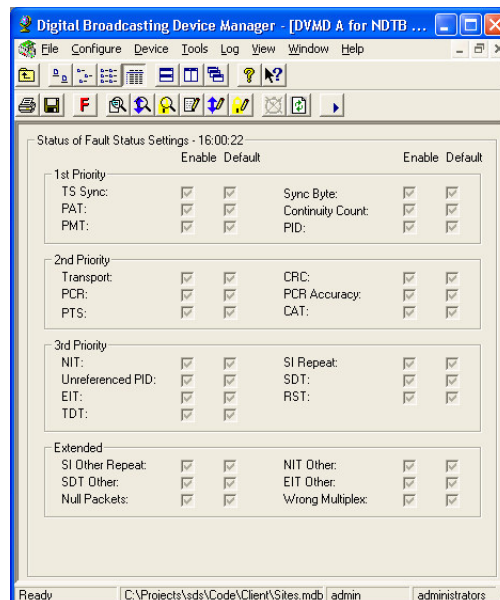


Fig. 2 – Configuration Changes