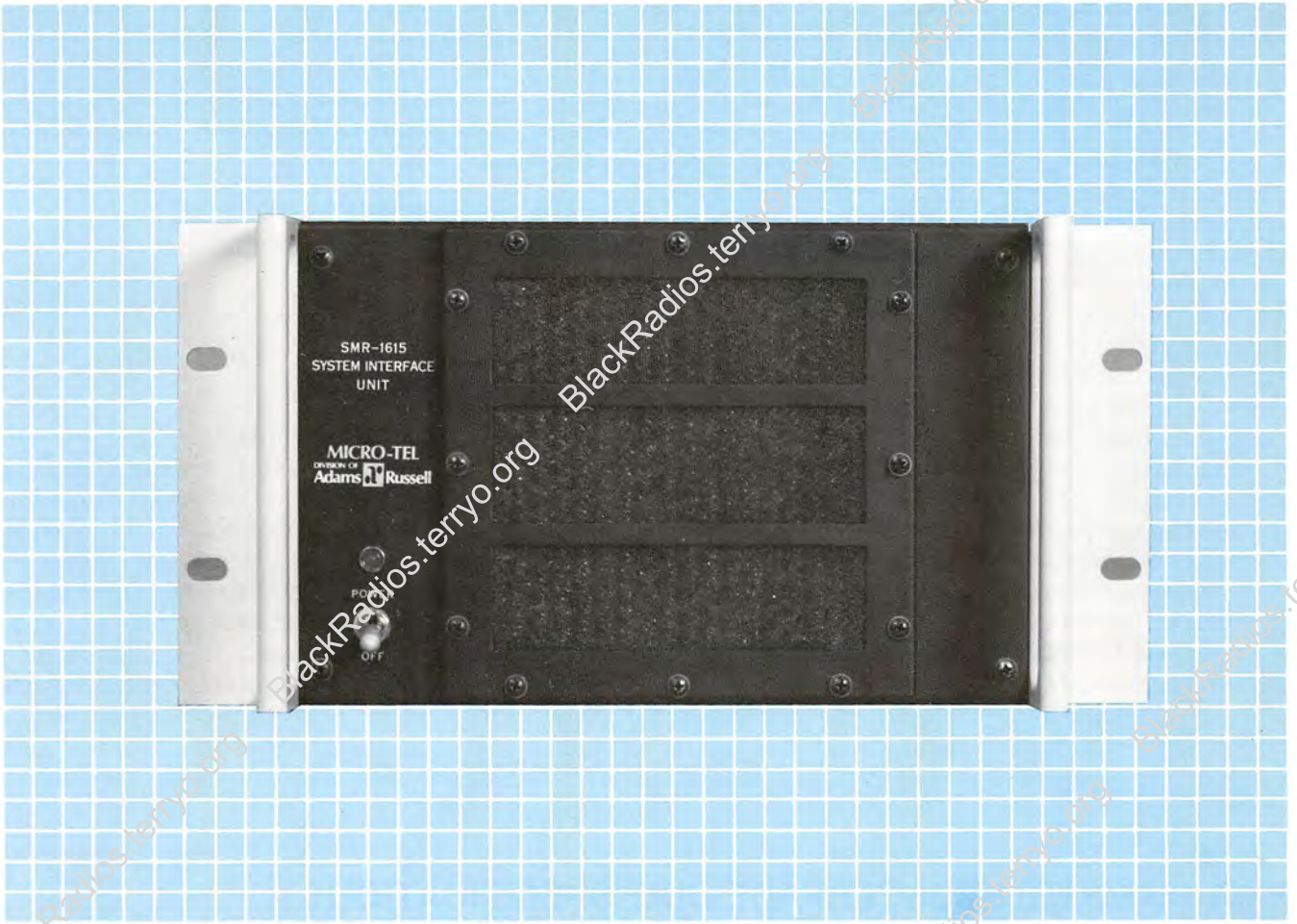
Adams Russell
MICRO-TEL DIVISION

SMR-1615
SYSTEM INTERFACE UNIT



FEATURES

- Controls Other SMR-1600 System Devices
- Communicates With Up To 18 Instruments In System
- Maximizes System Speed By Managing All Communications
- Battery Back-Up RAM Prevents Need To Reprogram System After Power Interrupt

DESCRIPTION

The SMR-1615 System Interface Unit is the branching element for the fan-out of RS-422 control to each of the elements in the SMR-1600 System. In addition to the physical branching function, its self-contained microprocessor generates and maintains the system "map"; and organizes and controls the flow of digital data to and from the various system elements.

Each SMR-1615 System Interface Unit has six RS-422 ports with options to expand to either 12 or 18 RS-422 ports. In small systems, one unit can accomplish all system communications, but larger installations may contain up to twelve in order to accommodate the number of system elements employed, or to conform with the particular geography of the installation site.

System cabling is simply a matter of connection each system element to an open RS-422 port on the SMR-1615. Subsequent polling will identify which element with what channel assignment is connected to which ports, and the information is stored in the microprocessor RAM memory for subsequent command sorting.

The first action after powering up the system is to initialize it by two depressions of the "INIT" pushbutton switch on one of the SMR-1611 Controllers. This initiates an interrogation request to the "root" SMR-1615 to identify the system elements on each of its ports. If the element is a signal handling unit (Tuner, IF/Demod, etc.), the response is the assigned channel number (1-64) of the device, type of device, capability of the unit (frequency range for tuners, available IF bandwidths for IF/Demods, etc.) and the "default" status of the element.

If the element is a sub-tier SMR-1615, it identifies itself as such and, in turn, polls all its RS-422 ports. Likewise, if the polled element is an SMR-1611 Controller, it simply identifies itself.

As the responses are received, they are buffered and queued, with the SMR-1615 retaining in memory the device type and assigned channel numbers of the units connected to each port. A port connected to a sub-tier SMR-1615 will show a number of devices connected to that port. It is the function of the sub-tier SMR-1615 to log and store the routing data for commands.

The channel assignment, capability and current status information is returned through the "root" SMR-1615 which in turn relays it to each of the SMR-1611 Controllers which may be installed.

Once initialized, the operator may proceed with the explicit configuration of the system to address the mission requirements. This involves utilization of the SMR-1611 Controller and its status/configuration data base generated by the SMR-1615 Interface Units in the initialization process. Further discussion of the operation may be found in the SMR-1600 System data sheet and the SMR-1611 Controller data sheet.

SERVICEABILITY

The SMR-1615 System Interface Unit was designed for optimum reliability and serviceability. Extensive use of the Built-In-Test (BITE) permits expeditious instrument checkout and provides for easy fault isolation in the event of an instrument failure. Another built-in feature provides the ability to monitor and log actual operating hours through the resident microprocessor. This permits easy verification of usage and system reliability data.

SMR-1615 SYSTEM INTERFACE UNIT SPECIFICATIONS

System Interface Ports	RS-422 (Serial)
Number of System Interface Ports	6 (12 with Option 1 and 18 with Option 2)
Operating Temperature	0 to 50°C
Cooling	Forced Air
AC Power	115/230 Vac ±10%; 47-420 Hz; 120 watts, maximum
Size	5¼"(H) ×8.5"(W) × 22"(D)
Weight	18 pounds, nominal

Options

Option 1	12 Channel RS-422 Interface
Option 2	18 Channel RS-422 Interface

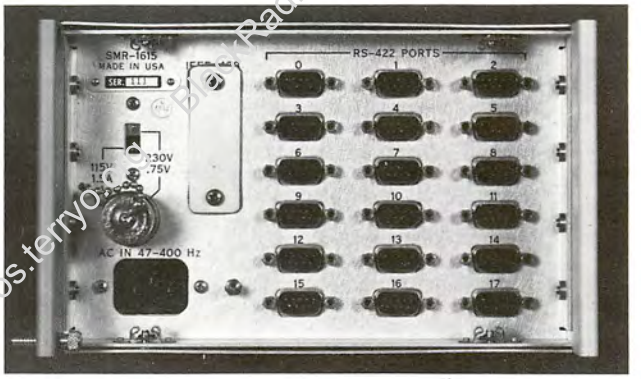
SMR-1600 SYSTEM OVERVIEW

The SMR-1600 Broadband Microwave Receiving System incorporates the latest in technologies to provide previously unavailable performance and flexibility. The SMR-1600 system may include up to seven different instruments, each containing a Motorola 68000 sixteen Bit Microprocessor.

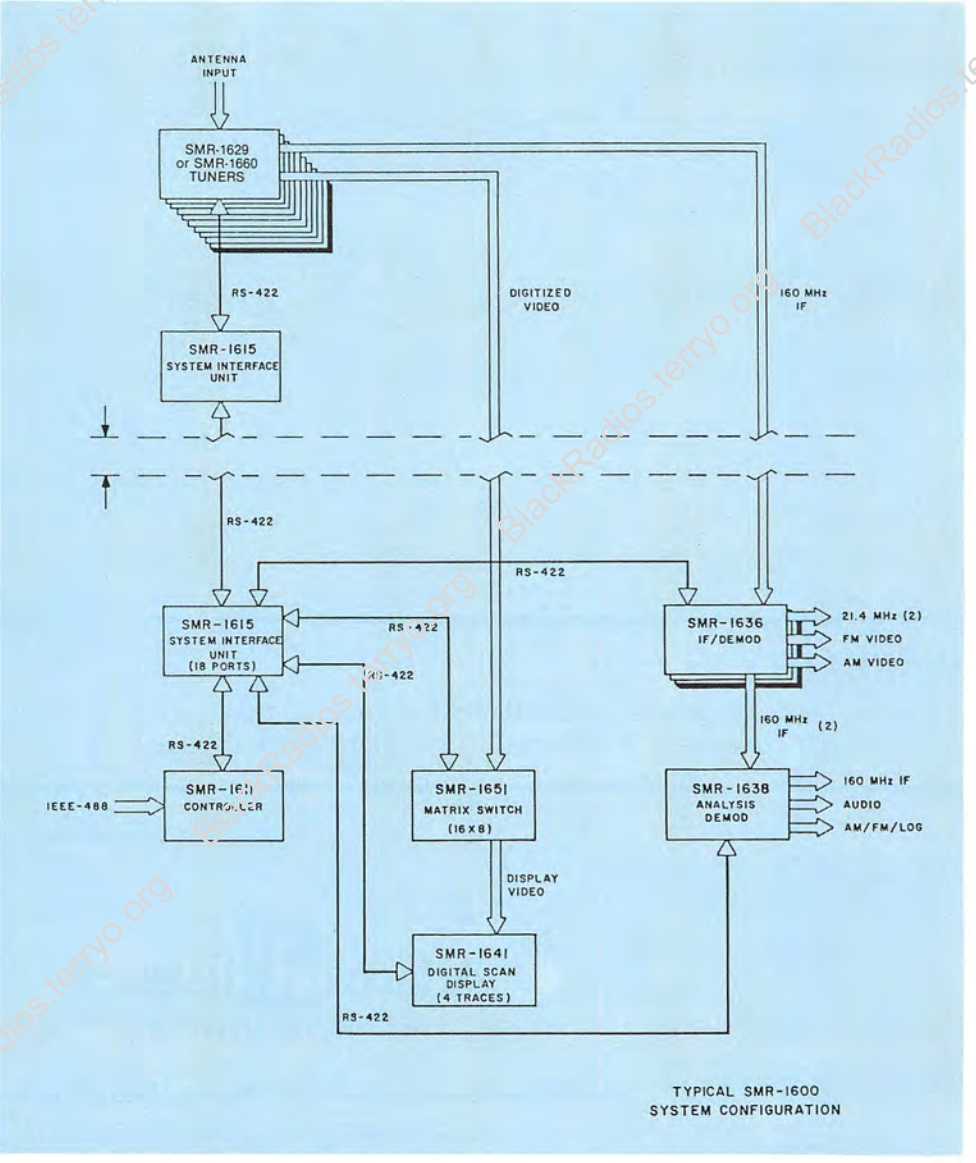
The figure represents a typical SMR-1600 multichannel receiver configuration. This configuration includes multiple tuners which are located close to the antenna to provide for maximum sensitivity, multiple controllers for multiple users (each having access to the full system), and a variety of demodulation and display capabilities. The system may be expanded to handle up to 64 channels consisting of tuners, demodulators and digital displays.

SMR-1600 FAMILY OF INSTRUMENTS

SMR-1611 Large Screen Controller
SMR-1615 System Interface Unit
SMR-1629 Tuner 500 MHz - 18 GHz
SMR-1660 Tuner 0.5 -18 GHz
SMR-1635 IF/Demodulator Tray
SMR-1636 IF/Demodulator Mainframe
SMR-1638 Analysis Demodulator
SMR-1641 Digital Scan Display
SMR-1651 Video Switch Matrix



REAR VIEW



TYPICAL SMR-1600
SYSTEM CONFIGURATION

WARRANTY

All Micro-Tel products are unconditionally warranted for a period of one year except for physical damage, provided the equipment is returned to the plant in Hunt Valley.

Adams Russell
MICRO-TEL DIVISION

10713 Gilroy Road • Hunt Valley, Maryland 21030
301-771-0077 FAX: 301-771-6025

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