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JORDAN TELEVISION

For some years visitors to Amman have been puzzled by the number of television aerials erected on top of most of the tall buildings, even though Jordan had no television service of its own before the Spring of 1968. The reason was that more than 5,000 receivers were regularly tuned to television services from neighbouring countries.

In 1966, the Government of Jordan approved plans for a national television service, involving a complete studio and engineering complex and two transmitters operating on Bands I and III, using the C.C.I.R 625-line standard.

The plan includes a 10kW Band I transmitter with an effective radiated power of 100kW and a 5kW Band III transmitter which, with a high-gain aerial system also provides 100kW e.r.p. An addition to the original plan was a semi-mobile 3 W Band I/ Band III translator which could be moved around to determine the best position for a transmitter for the next phase of the service expansion.

Five companies were chosen to supply equipment, with The Jordan Television Corporation acting as system co-ordinators and The Marconi Company as the main contractor supplying both transmitters and all the studio equipment except the V.T.R and the test equipment.

The new complex contains three studios with control rooms, Master Control Room, Central Apparatus Room, Telecine Room; video tape, film processing and editing areas, as well as programming, engineering and administration areas. All studio and engineering areas are fully air conditioned

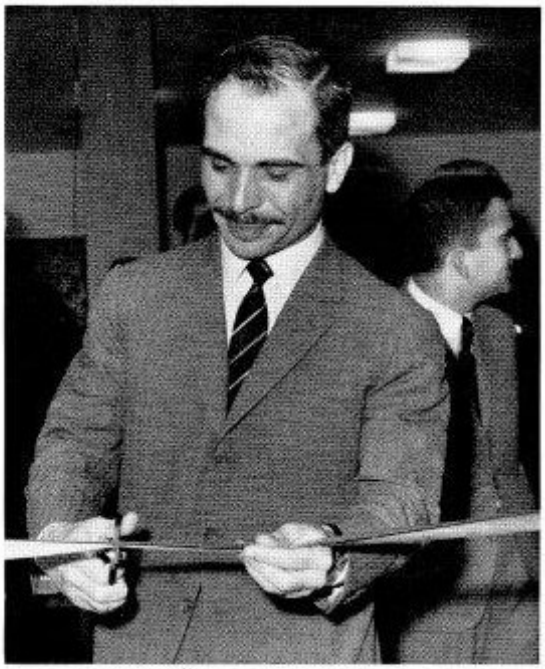

Fig.1 H.M. King Hussain performed the opening ceremony at Jordan Television during April 1968

STUDIOS

Studio I has an area of 192 m² and is equipped with three Mark V image orthicon cameras. Studio 2 is 90 m² and equipped with two Mark V cameras. Each studio has an individual control room with remote camera controls and engineering control equipment, while the Camera Control Units are housed in the Central Apparatus Room. Both studios are eight metres high, and sound-proofed. Lighting grids, designed on the matrix system for shadow free illumination and lighting flexibility, are hung at eight metres for complete camera mobility during the lavish studio productions being handled at the centre.

A small presentation studio, No.3, is also provided for announcements, interviews and caption scanning. This studio, equipped with a Marconi V321 camera with zoom lens, is virtually unattended, with the camera constantly aimed at a seating position. Spot illumination is also fixed on the camera viewpoint, and cue lights are controlled from the Central Apparatus Room as is the camera. Sound for Studio 3 is controlled from the Master Control Room so that the studio is ready for immediate use.

MASTER CONTROL ROOM

A semi-automatic master switcher (SAMS) with eight-programme source memory device is installed in the Master Control Room. Studio control, video tape and telecine rooms are all connected to this master switcher with talkback between all engineering sections and the Master Control Room. This system enables the transmission staff to be limited to a single engineer and two programme personnel.

CENTRAL APPARATUS ROOM

The heart of the control area contains the camera

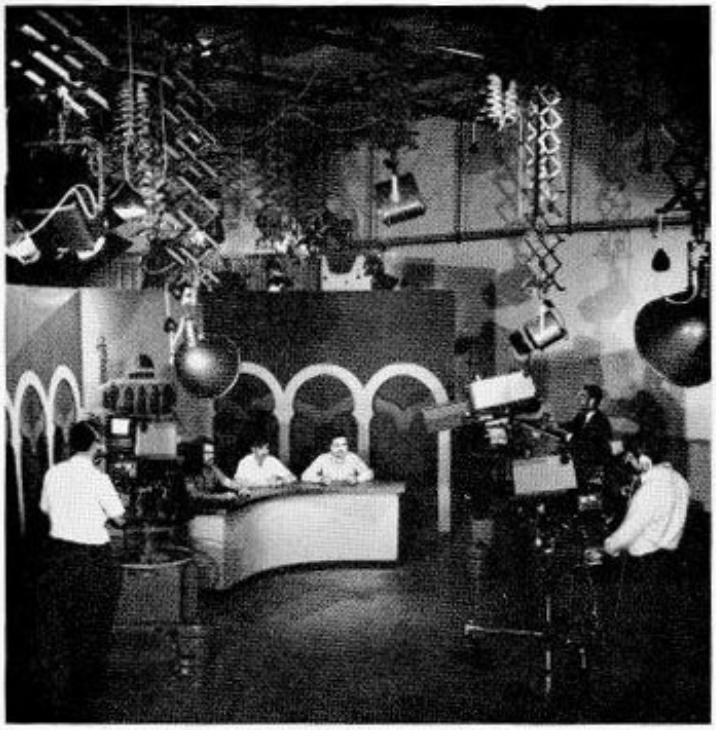

Fig.2 The lighting grid five metres high.

control units, pulse distribution amplifiers, sound distribution amplifiers, vision patch panel, sound patch panels, line clamp amplifiers, sync pulse generators, off-air monitoring receiver and presentation mixer matrix relay system.

The installation of all this control equipment in a single compact area reduces the delay problems which can arise with pulses travelling long distances around the studios and control rooms. It also allows rapid interchange of equipment should faults occur. Every picture and waveform monitor is connected to an eight-way switcher to allow maintenance engineers to check vision levels at any point in the studio chain. A major equipment line-up is carried out weekly for all studio facilities with transmitter levels checked daily.

Camera chains are checked each morning by the engineering staff from Central Apparatus Room although experience has already shown that once the chain has been set up it can operate for long periods without any adjustment. Camera control is then switched to the studio control rooms, where there is remote control of gain, iris and black levels. The fully transistorized Mark V camera has proved to be very stable and capable of complete 'hands-off' operation. This valuable facility enables CAR engineers to be free to supervise picture quality from all sources and to effect patching for other engineering sections. During hours of transmission, engineers maintain a close watch on video information passed to the transmitters and check against the picture on the 'on-air' monitor. This monitor is also connected to picture and waveform monitors so that transmitted signals can instantly be compared with received signals.

VISION CONTROL

With picture and waveform monitors and remote line clamp and camera control centralized, it is possible to use the senior lighting engineer additionally as a vision controller. Two advantages are immediately gained with this system;

1 All cameras are under the control of a single engineer, enabling equal levels to be more easily maintained.
2 Changes in camera setting can readily be co-ordinated with lighting changes.

PROGRAMMING

A single programme is simultaneously radiated by both E3 (Band I) and E6 (Band III) transmitters. On each band, satisfactory coverage is given over the whole of Jordan and in neighbouring countries as

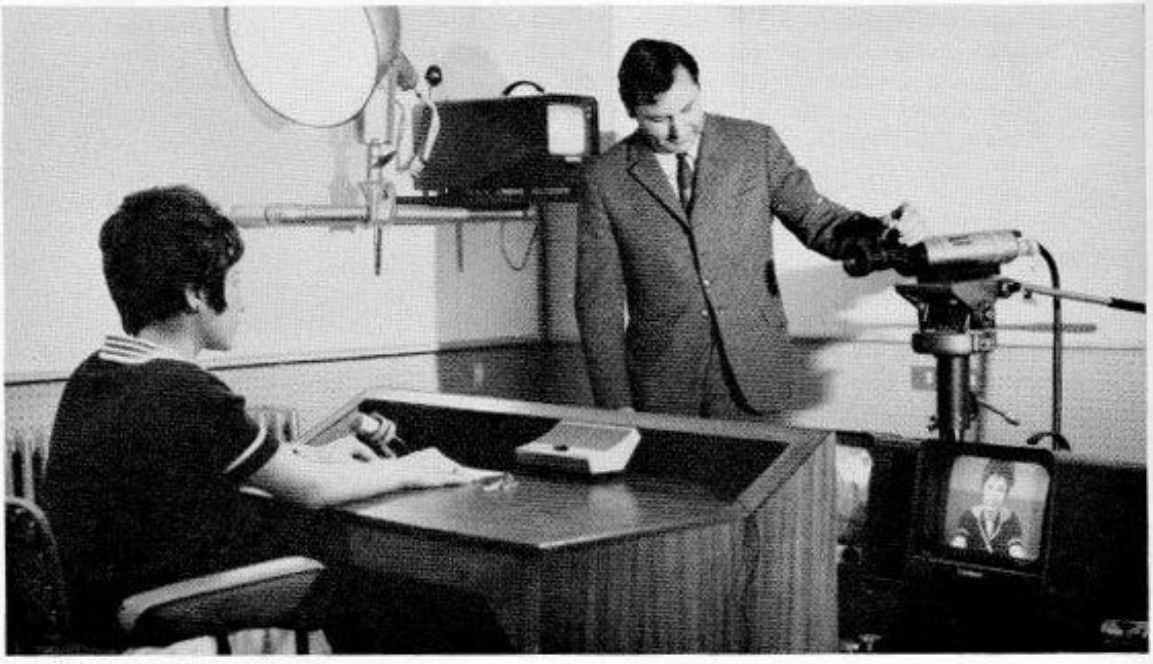

Fig.3 Part of the presentation studio.

far north as the Lebanon and parts of southern Syria including Damascus.

Although the Jordan Television Service has been in operation for less than a year, the main programmes are already being radiated for five hours each evening. The television service is also extensively used for educational purposes, with programmes produced in collaboration with the Ministry of Education, and broadcast daily for two hours in the morning and afternoon periods. Initially Mathematics, Physics and English are the main subjects and these are proving of immense value.

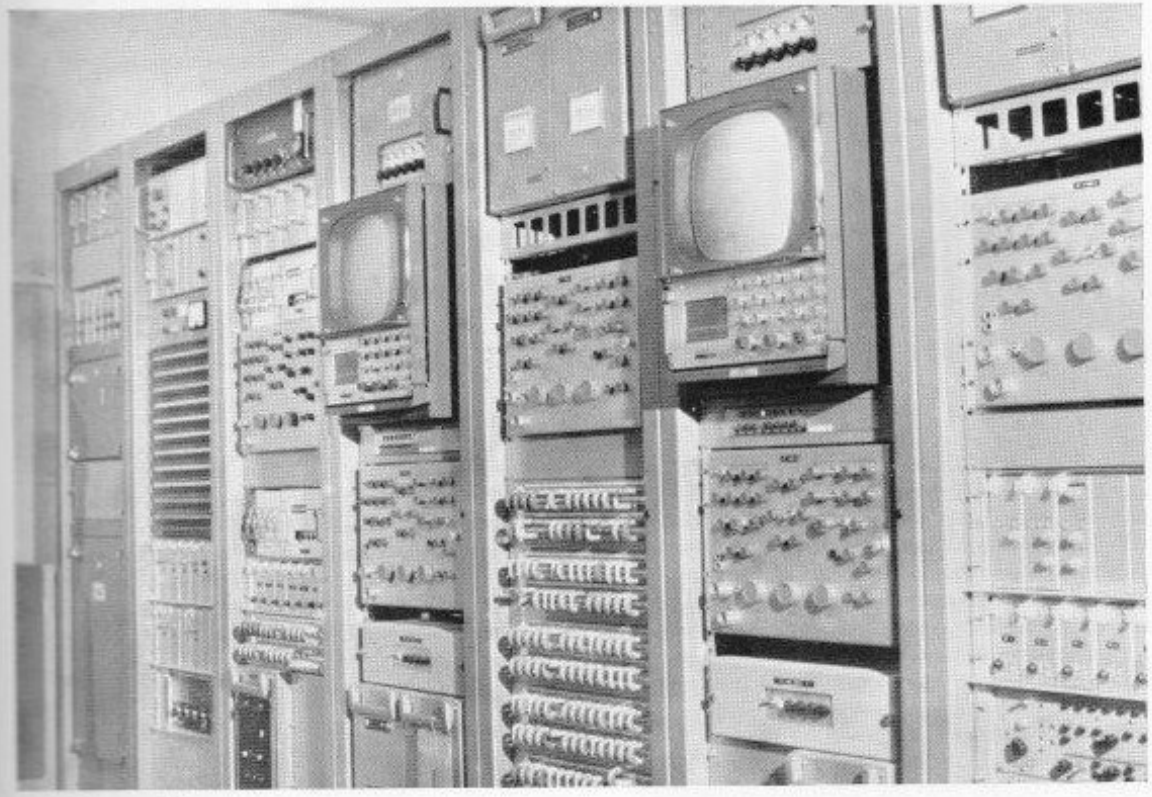

Fig.4 The central apparatus area.

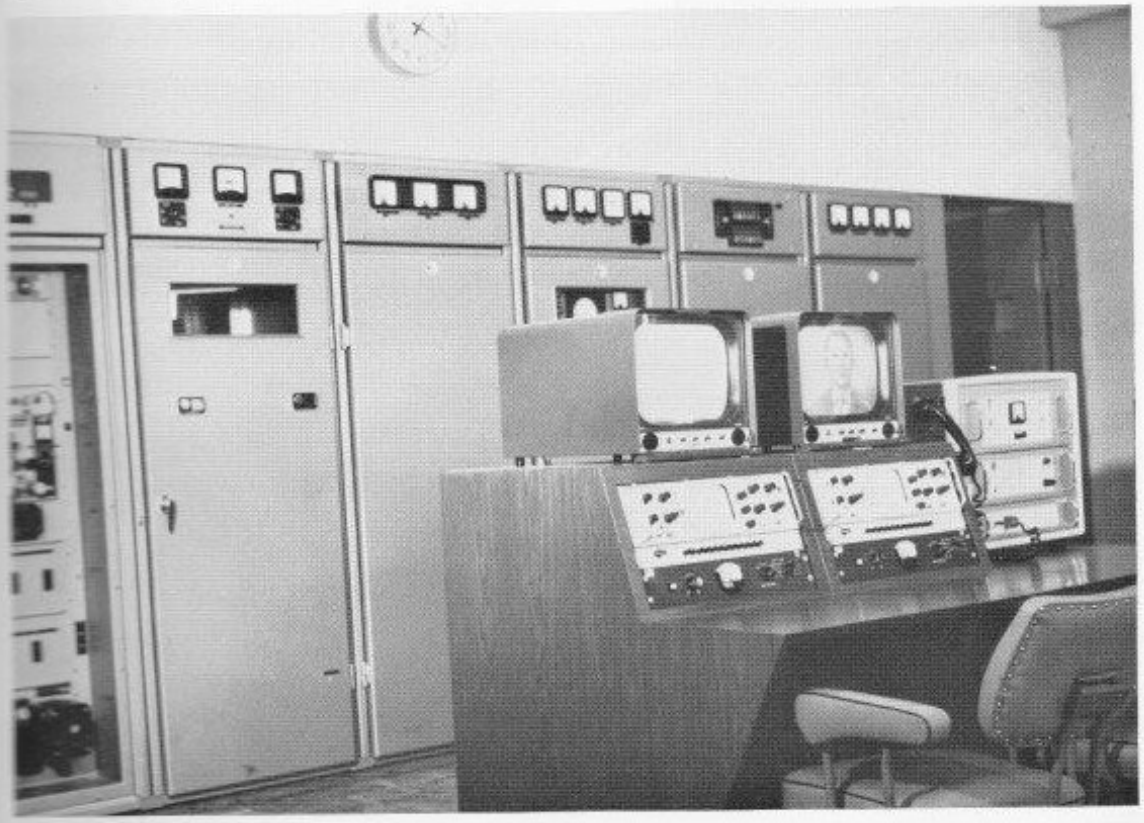

Fig.5 The 10kW Band I vision transmitter and 2kW sound transmitter.

PERSONNEL TRAINING

The planning, installation and commissioning of the system was carried out by the JTC with The Marconi Company providing installation and commissioning services. A major problem was the provision of staff to assist with the system installation, to run the service and to be responsible for programming.

Being a completely new medium it was not expected that experienced staff could be found within Jordan. Consequently, technicians with a background of sound broadcasting systems were recruited and sent to the British Broadcasting Corporation for a six months course at the BBC training centre. Jordanian nationals working in television in other countries were also engaged.

Four engineers from the BBC came to Amman and organized the on-site training of staff. Coupled with the training assistance given by equipment suppliers, sufficient staff in all categories became available to begin test transmissions in February 1968, in time for the formal commissioning by His Majesty King Hussein in April 1968.

From the initial planning stage to a full television service took a mere two years, a remarkably short time for such a comprehensive service.