

# ENG I N F

July, 11 1987 AI~. 30

## Sypher 3 and 4 enter service at TVC

Sypher suites 3 and 4 recently entered service at Television Centre. Located under TC1 in the area that previously housed the manual PBX, Sypher 3 is a replacement for Sypher 1, and Sypher 4 is a new facility. Each comprises a post-production sound control room, and a small sound studio. There are also two Sypher preparation rooms.

Sypher is an acronym for "SYnchronised Re-st Dub, IELical-scan and Eight track Recorder" and indicates that it is a sound-dubbing process in which a multi-track sound recorder (MSR) is synchronised to a non-broadcast HVTR. The procedure is to record the original master vtr sound-track on to track 3 of the MSR, and EBU time-code, for synchronisation purposes, on to track 8. This allows additional sound effects and music etc. to be mixed with the original sound track and re-recorded on to track 5 of the MSR. The additional sound may originate from tape or cartridge machines or gramophones but where the mix is too complex to handle in one pass an intermediate track-lay process is used to produce them 'a~ synchronous sources on tracks 1 - 4 of the MSR. In either case when the final mix has been

completed it is transferred back to the vtr in place of the original sound track.

Each control room is equipped with an SSL 5000 series computer-assisted desk; this offers thirty-six mono channels, six stereo channels, four stereo groups, and four VCA groups. The desk has the normal range of equalisers, filters, pre and after fade listens and pan controls. The SSL computer is used to store information about the settings of the faders and six

Continued at Back page

## New radio mic

Design Group RF Section have produced a high power Band I radio microphone system comprising transmitter, receiver and ancillary units.

Following the Merriman report, the BBCIS Band I allocation was substantially reduced so it became necessary to replace existing wide-bandwidth radio microphone equipment with a new generation of equipment requiring much reduced RF spectrum per channel. The new equipment uses 15kHz peak FM deviation to achieve this and recovers the consequent loss of signal to noise ratio using companding techniques. Attention has also been paid to the transmitter output stage to enable several links to be used in close proximity without incurring intermodulation problems. Receivers may be used singly or in diversity pairs.

The full line-up of new generation equipment comprises 4W transmitter TM3P/9, receiver RC4P/10, Circular units FL2/29A and B, attenuator FL2/30, 2-way rack EP1P/60, 7-way rack EP1MP/61 (for receivers), head amplifier AM14/60, filters FL2/31 A and B, splitter FL6/37 and power supply PS4/50.



Sypher 3 control room

## Novel waveform generator identifies sources.

producing equipment for UHF TV transmitter sites. The Transmitter Demodulator, 001 M/506 and Rebroadcast Receiver, RC5M/503 were designed to replace equipment installed when colour was first introduced around twenty years ago.

svr Video Systems Ltd have also taken a Licence for the Digital Stereo Sound with Terrestrial Television equipment, more commonly known as NICAM-728. This range of units, comprising a Coder, M:XIulator, Demodulator and Decoder, was designed as a prototype model by Research Department, in order to test various possible methods of broadcasting stereo sound with television: the current specification has been approved by the Government as the UK standard. However, following much interest from other broadcasting organisations world-wide, svr are now developing the equipment further, to a form more suited to regular use in an operational environment.

### ENG Ident: London Airport

Design Group, Design & Equipment Department have recently supplied for the London Airport studio an ENG Video Waveform Generator, GE6S/558. When the studio is not in use, the generator is connected to line and produces a test waveform similar to the line-19 ITS upon which most waveform measurements can be made, but its novel feature is the identification waveform which it produces on alternate lines. This waveform is so designed that when viewed on a waveform monitor an easily identifiable display is produced, based on alphanumeric characters formed by the combination of suitably modulated subcarrier and luminance. For London Airport the letters 'LAP' have been used as seen in the illustration. Other generators have been supplied for ENG sites at Crystal Palace, Barbican and the Topical Production Support vehicle. Just characters, some inevitably more stylised than others, can be represented using this novel technique devised by Richard Hubbard of Video Section.

## Licence Agreements.

Agreements on the following Licences for BBC-designed equipments have been reached.

A new burn and shading corrector, and an improved head-amplifier, have been developed for Rank-Cintel Mk III telecine machines. Known as FF...STIVAL, the PEe Head Amplifier, AM1/616 and Burn Processor Unit, UN26/604 are now available through Digi-Grade Systems Ltd of Farningham.

Continental Microwave Ltd of Luton, and svr Video Systems Ltd of Maldon are

Finally, Eddystone Radio Ltd of Birmingham are designing a range of modular r.f.i.-shielded enclosures, based on Design and Equipment Department IS CH1/86MK screened chassis. These modules, protected by patent, have become the standard method of packaging for r.f.-susceptible equipment, and Eddystone expect to develop these in a similar way to their ever-popular die-cast box.

Contact the D&ED Liaison Engineer, Peter Jefferson, on LBH 4345 if you would like further information.

## Transmitter News.

The following transmitters have opened or changed since June:

### UHF Television

Bridge of Allan	Central Scotland
Burbage	Derbyshire
Byrness	Northumberland
Clachan	Argyllshire
High Keil	Argyllshire
Mottram	Grtr. Manchester
stockport	Grtr. Manchester
Tayvallich	Argyllshire

### VHF Radio

Abergavenny	Gwent
Ballycastle	Cty Antrim
Pendle Forest	Lancs
Redruth	Cornwall

# Manchester VT developments.

transmission suites and three 1" C-format suites.

Each of the *Jt'* U-matic suites is equipped with two Sony BVU 800 vt machines and associated BVI 800 time-base correctors. The machines are linked to each other and the outside lines via a control and monitoring desk designed so that the whole suite can be operated by one person. Comprehensive control of the vtr's, sound, vision and the communications required for live transmissions is available from the desk position. A feature, incorporated at the suggestion of operations department is real time colour balancing. This was achieved by using a Cox 339 colour corrector unit adapted to preserve operational compatibility with Tariff 2, including the provision of lift and gain control on the z axis of the joysticks.

## *The Manchester VT control room*

The first major redevelopment of Manchester's central video tape area since the present BH opened twelve years ago has recently been completed. One year of careful planning, followed by six months of site work, brought the new areas into service on schedule at the beginning of August. The objective of the redevelopment was to bring the facilities available up to the present day programme requirements, and recognise the change from 16MM film for news and current affairs to PSC and *Jt'* U-matic helical vtr. To achieve this, whilst maintaining Manchester's high programme output required the work to be carried out in two phases, concurrent with the construction of a temporary edit suite housed in a portable radio studio built within the vt OB garage. The technical equipment for the temporary facility, originally built for the 1986 Carmonweal th Games, was made available to Manchester by P.1.D.Tel. When the equipment left Manchester it found a new home in BH Plymouth.

Building work in the new area included replacing the computer floor, electrical installation, additional walls and decorative acoustic wall boarding. B.E.S.M., Bill Sanderson, redesigned the air conditioning to give a more positive extract from points of maximum static heat load and provide enough air movement at the operator positions for maximum comfort without draughts. This work has given the areas a much enhanced appearance and improved working environment. The space for two new vt areas, VI'3 and VI'4 was made possible by the removal of a life expired Rank Cintel MK 11 tk machine from an adjacent room. The whole area was then rearranged to form a vt complex equipped with two independent *Jt'* U-matic high band

The U-matic vtr's can be remotely controlled using serial or parallel systems which ensure compatibility with all existing suites and mobile vt vehicles. The desks and control panels were custom designed by Manchester Tel.Rec. Services, in conjunction with operations department. The carcass was manufactured by Willsher & Quick, and the control panels by D & ED workshops.

As an alternative facility, each *Jt'* U-matic suite is equipped for editing, either as a sample two-machine suite, or in conjunction with other 1" suites. This facility is enhanced by the inclusion of audio and vision mixers which can be operated together or independently.

All crews now have available by switch selection an electronic vt clock with line-up tone. Designed by Manchester Services, it is controlled by a small portable keyboard which can be plugged into the wallbox of any vt suite. Facilities are also provided via wallboxes for control of DVE and vision mixers. VIR serial bus access is available to allow simple plugging of external edit controllers.

The entire project was undertaken by local Tel.Rec. Services effort, led by John Smith assisted by John Pickering, Tony Bailey and Ian Jones. The wiring was undertaken by local wireman Robert Scott. Building, ventilation and electrical services work was planned by Manchester Building Engineering Services Department, under the leadership of Bill Sanderson, and carried out by contractors.