

AUGUST 1965

# TAPE

RECORDING MAGAZINE

2<sup>1</sup>/<sub>2</sub>



IN THIS ISSUE

## Taping Thrills in mysterious South America

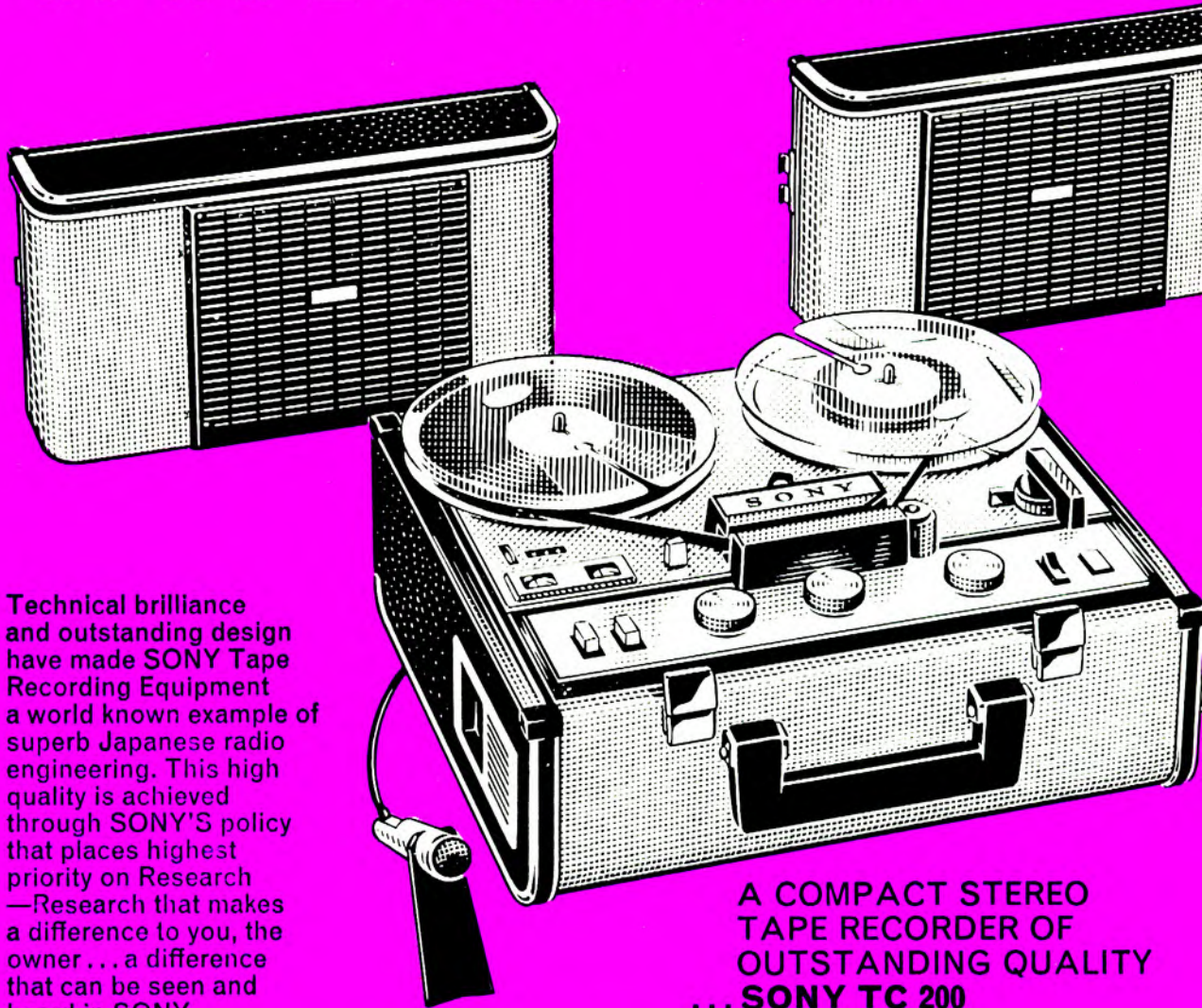
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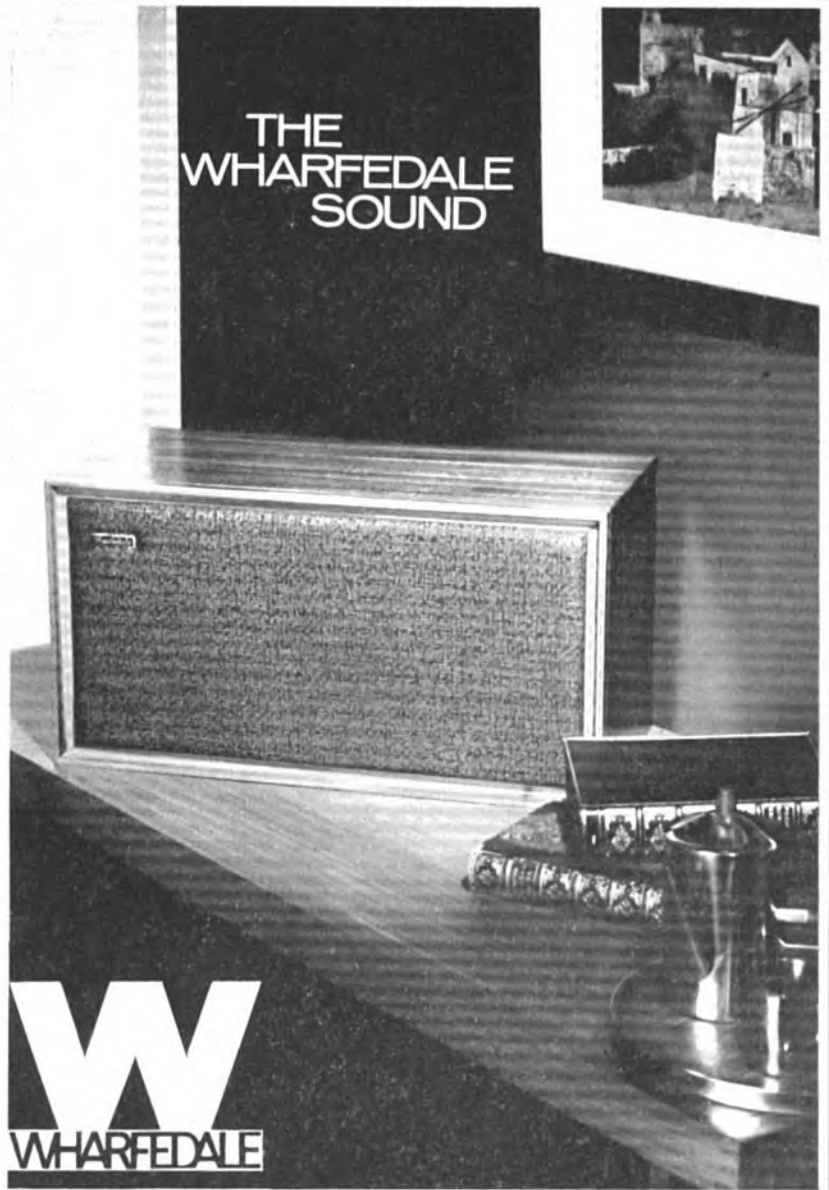
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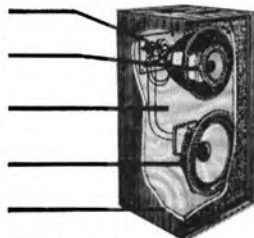
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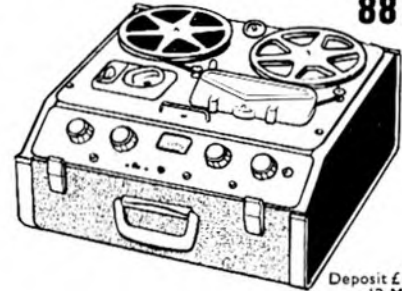
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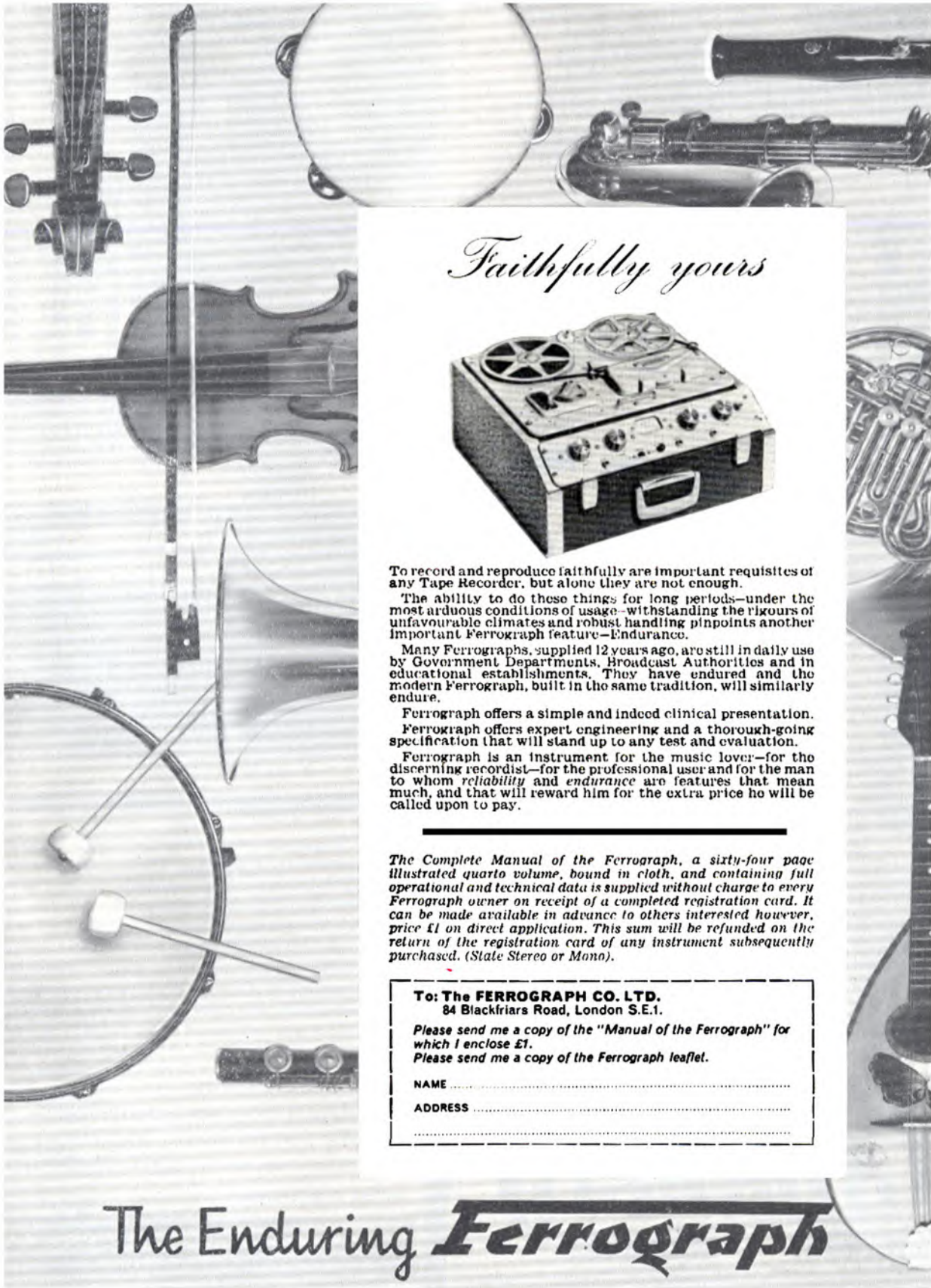
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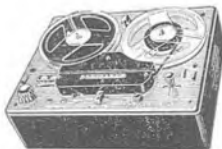


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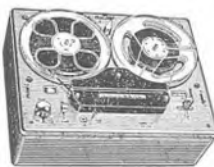


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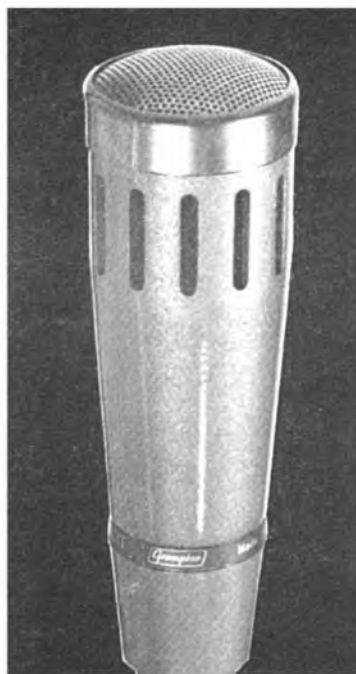
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# TAPE

RECORDING  
MAGAZINE

Vol. 9                      No. 8                      August 1965

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**COVER PHOTOGRAPH:** Documentary film-maker Bob Cundy—many of his films have been shown in the B.B.C. "Adventure" series—films on the summit of the erupting Costa Rican volcano Irazu helped by former model Ginny Stafford in charge of the sound side, who records the eruption using a Fi-Cord 202 battery portable. On page 304 of this issue, the widely travelled Bob Cundy begins a three-part feature of his adventures with a tape recorder collecting material about the diamond hunters of South America.

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**EDITORIAL**

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# Tape trends and tape talk

By the Editor

THE GREAT COPYRIGHT battle which has been fought for years in Germany seems now to have reached its final conclusion. It has involved the passing of a new law by the West German Parliament. This reforms the law of copyright in the country and includes a new liability upon manufacturers of tape recorders to pay a lump sum royalty on every recorder sold in respect of the use it may be put to during its operating life in the recording of copyright material.

Dictation machines and magnetic recording tape are specifically exempted from the new licence fee. And the fee in respect of domestic recorders cannot exceed one shilling in the pound of the purchase price of the recorder.

Owners of domestic tape recorders are specifically exempted, under the new law, from any liability to pay licence fees in respect of taping copyright music.

This clarification of the law of copyright in the light of the development of the domestic tape recorder has involved a number of other important changes. The German Performing Rights Society (GEMA) was earlier hoping to collect fees from every amateur and wanted retailers to be obliged to hand them a list of everyone who purchased a machine.

GEMA, which have been an independent organisation until now, is in future to collect copyright fees—from the manufacturers—but the organisation itself is transformed by the new law into a public corporation, operating under State direction. Presumably this is why GEMA was vigorously opposed to the legislation which the West German Parliament has now approved!

## LAUGH WITH JEEVES



**"Now remember, all you have to do is record everything the tourists shout, and then play it back thirty seconds later."**

In the United States a full-scale inquiry is now under way into the operation of the law of copyright. It is logical to suppose that, once it has completed its work, some reform of the American law will be carried through.

How long, one wonders, before an exercise begins in Britain to bring this law up-to-date?

ODDLY, IT SEEMS TO ME, more news of the Wesgrove video recorder is available this month—from America. Readers will recollect from this column that we have tried our best to report fully on this equipment, have borrowed a machine from an amateur in order to experiment with it, have hoped to have a full-scale demonstration in our offices in London by a representative of the firm; and, despite these efforts, have to date failed to get all the facts satisfactorily established.

Here then, is the latest information, taken, with acknowledgments, from our American contemporary, *Tape Reporter*.

In New York Mr. Jack Jones, managing director of Wesgrove Electric Ltd., has told them: "The VKR 500 is not a home unit. It requires too much technical knowledge and adjustment for the man who finds high fidelity components too complicated."

Agreed. In London we assembled a highly skilled team, including professionals, and failed to get the results we hoped for.

Mr. Jones announced in New York that his company is going to market a more expensive version of the video recorder, with closed circuit TV camera. Other plans are for a de luxe model and for a playback-only deck.

He added: "The deck is the one we see as the real home videotape recorder (*sic*). It will need a minimum of controls and can be used to play back pre-recorded tapes over your home television set."

*Tape Reporter* asked Mr. Jones where the pre-recorded tapes would come from and he replied that "some entertainment industry figures in Britain have evidenced an interest." He expects they will have to be hired, because they will be too expensive for outright purchase.

JUDGING IS UNDER WAY in this year's British Tape Recording Contest. With a big increase in entries this year—more than double last year's total—it is a formidable task.

The final judging session, with Josephine Douglas, Eric Robinson, Allan Freeman, and audio experts including Timothy Eckersley, of the BBC, Donald Aldous and John Borwick, takes place within the next fortnight and results should be available during August.

Talking of Contests, I note with interest that Grundig (GB) Ltd. are now organising a tape recording competition for schools. There are separate sections for infants, juniors and seniors. Tapes must not exceed ten minutes. Each school may submit three entries. Prizes will be three TK18L automatic tape recorders with accessories—one for the winning school in each of the three sections—and the Grundig Silver Trophy for the overall winner.

Closing date is December 20. Details from Schools Competition, Grundig (GB) Ltd., Newlands Park, Sydenham, London, S.E.26.

I HEAR FROM DR. JOHAN van Dam, of Antwerp, that a big effort is afoot there to raise the membership of their club, the Antwerpse Vereniging voor Geluidsregistratie. He sends me a much-enlarged edition of their magazine, which is part of the campaign.

Some of the Antwerp enthusiasts are anxious to establish contact with clubs in Britain, so that regular exchanges can be made. Will any clubs interested please communicate direct with Dr. J. van Dam at Milisstraat 33, Antwerp, Belgium.





The French luxury liner "France" and the New York skyline

## Ten thousand miles on 200ft. of tape

**T**HE occasion of the presentation of prizes to winners in the 1964 British Amateur Tape Recording Contest last November, was for me an exciting affair. A glass of something good to drink in my right hand, in my left a plate of something good to eat, and the most excellent company of fellow prize-winners, top professionals, the press, and Miss Josephine Douglas who so graciously presented the prizes.

I well remember the "bubbly tummy" feeling as I was called forward to receive my awards for my documentary tape "Sink Symphony." The magnificent Emitape Challenge Cup, a handsome cheque, and enough top quality tape to keep me busy for at least a year. Later I returned to the prize table for further awards, for the success my tape had achieved in the International Amateur Recording Contest. This time I received the coveted International Shield, awarded by *Tape Recording Magazine*, and an almost insignificant envelope containing a voucher donated by Treasure Tours of Paris, a French travel agency. This voucher in fact represented a holiday in America, including free travel, accommodation, and facilities for four weeks beginning April 9. It stated simply, "Southampton April 9—7 p.m."

Last November the date appeared a long way ahead, but for a busy tape enthusiast time goes all too quickly, and at the beginning of April I was suddenly jolted by a charming letter from Mr. J. C. Murat, Head of Treasure Tours's French office. He enclosed my travel tickets and wished me "Bon Voyage."

Then followed the usual enthusiast's panic. Clean and service the Fi-Cord; buy a lot of 3½-inch Emitapes in those delightful red plastic containers; buy lots of film; make-up new leads, plugs and sockets for my Grampian DP6 microphone; and obtain American type plugs for my battery charger and shaver. Oh yes! and pack some clothes.

Eventually the great day arrived, and I made my way to the Ocean Terminal at Southampton. It was 6.45 p.m., and outwardly I hoped I appeared calm and collected, quite self-possessed in fact. I had no wish to let experienced fellow travellers realise that this was my first trip on a really large ship.

Suddenly someone said, "There she is." I looked round and was taken aback to see the longest ship that man has ever made move, gradually creeping into the dock. It was the *France*, the French luxury liner. She was floodlit, a blaze of light in fact, with her two unique winged funnels glowing red in the evening sky.

There she was, beautiful, so very, very large, and coming just for me. At this stage I guess I felt just like the first space man. Nothing like this had ever happened to me

**RAY S. KING, producer of the "Tape of the Year" in the 1964 British Amateur Tape Recording Contest, describes his American holiday—part of the prize for his award winning humorous tape "Sink Symphony."**

before. A lifelong ambition unfolding, to travel on the world's most recent liner.

The next moments passed all too quickly. I received congratulations from the immigration officer who asked why I was going to the United States, bows and smiles from the fifteen uniformed and pill-boxed bell boys in the main reception hall of the ship; and then met the cabin steward who settled me in my individual cabin—so very comfortable and well appointed—before he ushered me to the dining room. Next came an enthusiastic greeting from Mr. John D. Midderham who was to be my guide, philosopher and friend for the next four weeks, followed by the evening dinner which was so splendid that it took me two hours to leave the table!

The excitement took its toll. The *France* left Southampton at midnight, though the size of the ship made it seem that Southampton left the *France*! To bed, to think that it was all real and happening to me, to drowse, to slumber and to sleep.

The morning came, and suffice to say that the ship, the service, the accommodation, the facilities, the entertainment were all of the highest order. In fact another world of comfort, luxury, fine foods, fine friends, fine interests and happiness.

The first two days of the voyage were too exciting to even consider recording as I familiarised myself with the ship. There were people to meet, there was that special invitation to a cocktail party to meet some of the Ship's Officers, and there were countless pictures to take.

On the third day, I commenced my recording activities, describing my cabin, and interviewing Gabriel—the bartender who knew just how much water I liked with it. Then there was a visit to the ship's cinema, the orchestra which played for afternoon tea at 4 pm. and the evening cabaret.

I've always been a good sailor, and as I watched the barometer fall I hoped that I should experience an Atlantic storm. My wish was granted, and in a howling gale I ventured out on to the deck aft, clinging to my Fi-Cord with one hand and to the ship with the other. I had been fortunate in remembering my windshield for my

(Continued on page 302)

# Ray King reports on his contest holiday prize

(Continued from page 301)

Grampian DP6 microphone. This cut out most of the wind blasting, and also served the most useful purpose of keeping the microphone dry. The wind noise through the ship's rigging was terrific, and I found that by putting my mouth almost on to the windshield, I could yell my head off and still get a very acceptable recording—using the windshield as a lip bar in fact.

The French Line, and Mr. John Midderham were most kind in granting me some recording facilities not usually available to passengers. I toured the ship's radio room. Full of atmosphere this, with the morse code bleeping away in the background, and teleprinters clicking away, and I spent several hours in the ship's television control room, from where music and news bulletins are passed over closed circuit to some fifty vision sets and three hundred loudspeakers. Commissar Guigel, Officer in charge of TV and radio gave me a most agreeable interview, his charming broken English adding an intriguing touch to his technical description.

I had decided to approach this wonderful trip as a collection of pieces, rather than a complete sound diary of the whole trip. To have covered everything would have been a marathon task, not to mention the amount of tape which would have been consumed. The final recording may well have run to a question of days not hours! Whilst I still have many hours of work to do on the final version, I am sure that the best approach is to tie the live pieces with home studio links, and be ruthless in selecting only the best pieces for the final epic.

## First impressions

After five days at sea we approached New York. I was not alone when I took my breakfast at 6 am and by 6.30 I was on the Promenade Deck telling my Fi-Cord just what my first impressions were of the Statue of Liberty. I managed to interview a real live American on his way home after visiting Europe, and he helped me note much of interest as we crept up the Hudson River and caught our first sight of the New York Skyline.

The morning was perfect, a warm Spring sunshine, seagulls wheeling about the ship. Little coloured dots moving up and down the distant waterfront were later identified as large and colourful American automobiles.

I was enraptured especially by the flotilla of tugs which so carefully took the great ship in tow and the chatter of their deep throated voices as they talked excitedly in the early morning sunshine. I talked excitedly also, foot after foot, reel after reel. The berthing of the ship, the dock-side noise and clatter, it's all there, a dream to be relived each time I play the tape.

Soon it was time to leave. I planned to have my recorder running all the time as I left the ship to capture the sounds and what

I saw as I stepped on to American soil for the first time in my life.

"Landing cards please."

"Mind the step please."

"Hope you've been comfortable, Sir."

And then my first encounter with a real live gun-slinging American policeman—"You'll get a fifty dollar fine if you don't put that pipe out!" And then the Customs Officer, who when searching my bags, refused to believe that I wasn't a tape salesman! Chaos-noise-cars-people-New York.

## Two hectic days

The next two days were hectic. I left the Park Sheraton Hotel, a stone's throw from Times Square, each morning at about 9.30 to see everything, yes almost everything that one should see. John Midderham, by now a firm friend, soon understood my methods of getting into conversation with complete strangers with my DP6 outstretched. In fact he got quite good at timing my interviews, giving me the "wind



The author interviews an American sailor in front of the U.S.S. Constitution—"Old Ironsides"—an early American battleship now a memorial in the Naval Shipyard at Boston, Massachusetts

up" sign when he knew my tape was about to run out.

Being endowed with plentiful hair, I planned to have it cut in New York. Plucking up courage I visited a swank barber's shop, recorder running all the time, and inquired if they could effect an English haircut.

"What's an English haircut?" asked the manager in his powder-blue smock.

"Not more than a quarter of an inch off each hair," I said.

"You some sort of Nut?" asked the barber.

It developed some, and provided a little gem of a piece!

There was the lady cashier who insisted on fixing her make-up before the interview commenced! There was the lift operator who talked for twenty-eight minutes after my tape had run out before I could get a word in to stop him!

Yes, two hectic days, full of interest and activity. I was to return to New York for a further two days, with special trips to radio and recording studios.

Whilst the Editor of *TAPE Recording Magazine*, Mr. Douglas Brown, and his Assistant Fred Chandler have gone to untold troubles to guide and steer me through this hectic year, I could not feel justified in expecting the whole of the remaining year's space to tell my stories and experiences on this fabulous trip. Therefore I will only mention the principal places on my American travels, perhaps highlighting those occasions and recordings which may be of particular interest.

Washington, beautiful capital city, with visits to the White House, the George Washington and Jefferson monuments, government offices, the Pentagon, President Kennedy's grave, more pictorial than recordable, time in fact to give camera preference.

Williamsburg, a completely restored War of Independence town. People actually dressed and working in 18th century costume.

After touring this unique town, I came across the Armory and Army Headquarters proudly flying the Union Jack. This was to provide my opening gambit, and I had soon introduced myself to one Carter Richardson who spoke with a most charming Southern drawl. I interviewed vigorously, the birds in the trees adding most acceptable background atmosphere. He casually mentioned that only on special occasions were the old cannons, which lay plentifully about, fired.

Summoning my most convincing look, I stated that I had come about 3,500 miles expressly for this purpose! He took the bait and, described his every preparation to my Fi-Cord.

## Explosive interview

He blew his piece of smouldering string to red heat, and applied it to the appropriate hole. What happened next I shall never be quite sure, but after the smoke cleared there was scarcely a leaf on the trees, let alone birds! My DP6 microphone had coped however, and the dwindling echo through the surrounding hills gives a fitting climax to the most explosive interview it has ever been my good fortune to record!

Richmond, through the Blue Mountain Ranges to Charlestown, then to Indianapolis, where I met my first drive-in restaurant for motorists. I interviewed users extensively and formed an opinion that some American families definitely live in their motorcars, and just pop into their houses to sleep at night!

One interviewee stated that he ate in his car because he didn't like to miss the radio. Another so that he could keep an eye on his wife, and yet another told me he couldn't get out because he had "One hell of a hole in his pants!"

Chicago, with interviews and impressions coming thick and fast. Three high-speed



police cars with sirens wailing gave me a recording which I shall treasure—and doubtless use again.

Henry Ford, or Detroit by another name, with a day packed full of interest through the courtesy of the Ford company: I toured one production line where the new Mustang car is being produced. The noise was indescribable as I followed the line, describing what I saw, with the help of the well-versed guide who was so co-operative. We both had to yell our commentary, and I think that this has helped to convey the atmosphere and speed with which they manage to make one complete car—thoroughly tested, and ready to be driven away every 53 seconds.

There followed an exciting visit to the Henry Ford Museum which like most things in America is very big. This museum houses the largest collection of everything from knives, forks and spoons, to full-sized Pacific Locomotives. They had recordings running of the whistles and hooters of these fine old wood-burning engines, and I must admit that I blatantly copied them on my recorder. This piece winds up with an interview with a most charming and aged man, who had spent his whole life with the Ford Company.

From the tone of his voice, it is easy to see that he loves every item on show. It was interesting to hear him say proudly that one item was actually one hundred years old! It's a new country!

## Niagara Falls

Niagara Falls. In fact, underneath Niagara Falls, for it was from here that I commenced what is to my mind the most exhilarating and exciting recording I have ever made. Covered in thick rubber clothing, my microphone only visible in one hand, I got very wet, and here again, the Grampian windshield protected my microphone from certain ruin for it was literally soaked.

Rochester, with a visit to Kodak's City—for that's almost how big their plant is, and through the Berkshire Hills to Boston.

It was here that I was met by an amateur tape group who had waited all day for my arrival. I had but time to shower and change before they whisked me off for a tour of the City, making hasty calls at two television stations, a film studio, two private enthusiasts' homes, before settling at the home of one Edward Deering and his charming wife Annamarie.

They wined and dined, and I answered questions.

I should think that Edward is just about typical of an American amateur enthusiast. But his equipment! He had five recorders!

There was a Philips, a Uher Report, an Ampex, and two other machines whose names elude me. In his den he had an FM Tuner, with two small speakers, which could also be switched through to his lounge to two larger hi-fi units there. I was particularly impressed by the neatness of his layout, all interconnections being adjustable through about a twenty-way patch panel. His indexing was also enviable, for out of many hundreds of tapes, by quick reference to a card index, he knew where to find it, what it's programme content was, when the recording was made, and to whom he had supplied copies. I would be a willing purchaser of such a nicely printed indexing system were it available in this country.

I questioned him at length, both on and off tape. He did, of course, tapespond, and I agreed to send him a first tape from his new found tapespondent, and it has already been dispatched.

From his answers, it would seem that tape clubs or groups hardly exist in the USA, at least, not in the East. Tapesponding was extensively used however, and certainly not only by recording enthusiasts. Tape/slide shows are also exchanged far more frequently than, I think, in Great Britain. The system was almost exclusively four-track (pity this), and it would seem that a far greater number of people collected music, on tape, rather than on gramophone records as in this country.

Amateur creative work, it seems, is not popular, and the great number of radio and television stations that exist in or around every American city could mean that most creative recordists were probably professional, there being very large numbers of programmes from which to choose on every dial.

As mentioned previously, America lives on wheels, and with their very fine road systems, vast open spaces and first-class tourist accommodation, leisure time is very much "out and about," which may not leave very much time for time-consuming creative recording.

The group all agreed that our British Amateur Tape Recording Contest was a brilliant idea, and they had no knowledge of a similar competition in the United States.

In the early hours of the morning, having covered every aspect of recording from the amateur's point of view, they drove me back to my hotel. We said a reluctant goodbye—but the following morning when I left Boston, there they all were again to see me off!

Manhattan, Rockefeller Centre, Empire State Building, Chinatown, St. Patrick's Cathedral—yes, back to New York for our last three days in America.

## The World's Fair

The New York World's Fair is almost beyond description. I have never seen anything like it. It is perhaps best compared to the Festival of Britain held way back in 1951, only about ten times as big. With the tremendous progress which has been made in the electronics field, it is auto-



Edward Deering, a typical American tape enthusiast, prepares a tape/slide show. His equipment is housed in his home-made rack mounted layout providing easy access to all controls



The moment of decision! To talk or not to talk—to two American policemen. Ray King on the lookout for interesting subjects in New York City

mated in every respect giving one the feeling that the exhibits are watching us, and as if they are quite happy working all by themselves and the viewing humans superfluous.

The Bell Telephone Exhibit is typical of this automated approach. One is seated in a comfortable mobile armchair. Into your headrest are built two loudspeakers giving you information and effects in stereophonic sound. These same sounds are also being programmed over larger speakers throughout the exhibit, giving surprising realism and clarity. Your armchair enters a tunnel, which gradually gets darker as one is gently transported through a series of large caverns. Each cavern contains animated models portraying the history of communications, past, present, and future.

All is blacked out except the particular "sets" being described and as each cavern or scene is entered the effect is absolutely convincing. More so since the "sets" are all around you, to your left, right, overhead, and apparently underneath also. One is suspended in the armchair, and in the final part of the "ride" one enters the space age. Looking down on the world from about five hundred miles with sputniks, telecommunication satellites, shooting stars are all around you and moving. Add stereo hi-fi sound to this and you have the feeling of actually experiencing the real thing.

Of course I taped what I could, but even after the first exhibit I had run out of superlatives, so fantastic was every exhibit I visited.

I learned later that nearly all exhibits were fully automated and controlled by tape. I was conscious that the usual tinny sound associated with such things was absent.

(Continued on page 308)

with a tape recorder: continuing our new series on location recording, journalist BOB CUNDY recalls his adventures as he searched for diamond hunters, and found himself:

## Taping thrills in mysterious South America

I WAITED until the leaders were about fifty feet from me, and then pressed the button. There were hundreds of them, most on bicycles, others running alongside, shouting and gesticulating. With my back against a telegraph post, I held my finger tight on the button as they kept coming. Suddenly, above the whirr of the camera, I realised that I was the object of their anger. "Smash de camera, no pictures," they were shouting. Through the view-finder I saw them shaking their fists as they raced by. For some stupid reason I took no notice, just let them stream past, holding the shot until the camera spring ran down.

Miraculously, nothing happened. The cycle mob had gone, leaving the cross-roads deserted save for a solitary old East Indian pedalling slowly towards town. I really should be more careful, I thought, putting my camera back into its case. Perhaps these riots were good news material, but filming them might cost me my camera, perhaps even my life. And I had not come to British Guiana to shoot newsreels of the political upheaval; I was here to make a film on the life of the diamond men, the lonely groups who staked their lives on finding diamonds in the high jungles of the British Guiana-Venezuela border. Stalled in my travel plans because the man I wanted to meet, George Golas, was away up country, I had been unable to resist the chance of shooting a news exclusive on the race riots in Georgetown.

But that afternoon I had an interview with Golas's friend, Eugene Correia, and maybe he would help me to get a plane to the diamond area. Meanwhile, I decided, I would leave the political reporting to someone who knew more about it. In the present situation violence could flare up suddenly; leap unpredictably, like flames in a forest fire. As if to underline my thoughts, two men, negroes, ran from the shadow of a building, leapt on to the solitary East Indian and dragged him to the ground. Terror gave him the strength to tear his bicycle free and, pedalling frantically under a rain of blows, he raced away down the road.



The Demerara River and Georgetown, capital of British Guiana, the only British colony in South America, and the author's "jumping-off" spot

It was time to go. I slung my camera over the handlebars of my hired bicycle and returned to the city. Georgetown is the capital of British Guiana, a country of 83,000 square miles, and the only British colony in South America. On the map it looks tiny, an insignificant red patch on the north-east shoulder of the huge continent.

As I cycled I reflected on the tragedy that had filled the colony with hatred, suspicion and fear. A political battle, an offshoot of the cold war, had driven a seemingly immovable wedge between two peoples, both coloured, but who once were proud and happy to call themselves "Guanese."

First there were the negroes, descendants of African slaves brought to work the sugar plantations that are still the colony's chief source of wealth. With the abolition of slavery, the negroes had left the fields, and gathered to produce the main labour force in the towns. Then, to replace them, immigrants had been brought in from India. These East Indians as they were called, to distinguish them from the Amerindians, natives of the South American jungle, who lived in the interior, were contracted to work for five years at low wages and in conditions of extreme poverty.

Nevertheless, these conditions were better than those they had left in India, and the majority settled in the colony. Today they

still work on the sugar plantations and form the greater part of the rural population. Their leader, Dr. Jagan, said to be a Communist, was opposed by Forbes Burnham, the leader of the Negro party. For several years Georgetown had been the centre of a bitter struggle for power, which had now taken on the tragic overtones of a racial war.

Georgetown was built by the Dutch, who played their favourite game of holding back the sea (the city is two feet below the level of the Atlantic). They dug a network of drainage canals, which have now been pumped dry and filled in to make wide avenues lined with scarlet-flowered trees. They built tall, white timber houses each raised on stilts against the floods of the rainy season, and it was one of these, known as the "Grill Guesthouse," that I was currently calling "home."

I had almost become used to lunch at the Grill. The food was typically Guianese, with rice and fried bananas taking the place of vegetables, and the meat strongly spiced. But almost as strange was the collection of guests. A young Oxford scientist about to leave on a study of soil conditions in the Rupununi grasslands near the Brazilian border in the south-west of the colony; an American collector of wild animals from Los Angeles, down here with four other



young men to hunt for diamonds and gold, and the Superintendent of the City Police.

One by one, I was putting their fascinating stories on tape. I had brought with me a Fi-Cord 202, with two Beyer microphones—one omni-directional, the other directional. Together with a tiny mixer unit, these made up my total sound equipment.

But this afternoon I was to meet and record one of the big names in Guianese diamond mining, the Portuguese merchant Eugene Correia. As my colleagues spread themselves in the verandah armchairs, I collected my tape recorder and gear and pedalled off to Eugene's house. Like the others, it was on stilts, of white-painted timber. But underneath it were two serviceable-looking Land-Rovers, and a shining collection of galvanised piping, a new diamond-mining sluice. The Correia living-room was typical of the colony, a large, airy high-roofed room, with a shining hardwood floor. Guiana's forests contain over 1,000 varieties of timber and the colony is proud of its distinctive furniture styles.

Eugene is a slight, dark man, completely lacking the burly build that might be associated with a tough jungle prospector. His strength lies in his eyes, dark, intense, never at rest. For years they have searched for the tell-tale glitter or gleam amid dull gravel. For years they have gazed deep into the hundreds of thousands of gems that have come to his office, assessing worth through shape, colour and clarity.

He was a restless man, and it was difficult to put him at his ease. Besides, there was a constant interruption from the street outside. Guianese houses usually don't possess glazed windows, but have wide, slatted shutters instead. We closed them all, but still the background noise filtered in. I had wanted to use my interview with Eugene as a sort of "wild commentary"—his description of diamond seeking flowing over the pictures I would later shoot in the jungle. But the cries of the street vendors, the roar of motorcycles, and the eternal tinkling of bicycle bells made this impossible. I decided to go ahead and tape the interview, and then try and repeat it later in the studios of the colony's broadcasting system.

Slowly, hesitantly, Eugene's story came out. He had been working for his father—the Portuguese almost all came to British Guiana as merchants and set up stores and trading companies. But by the time he was twenty he could no longer resist the lure of the unknown. He set off by boat up the great rivers which gave Guiana its name—the "land of the waters." On that journey, several men were lost in a capsizing in rapids. There were the vicious carnivorous pirana fish, and giant snakes. But a far greater enemy was the implacable forest. "We barely made thirteen miles a day, out there on the Upper Mazaruni," said Eugene. "We cut our way back from the river, following the feeder streams, and hillsides. But in sixteen months of hacking through jungle, diverting streams and digging prospection pits we found nothing.

"After sinking a pit we would set up a 'small tom'—a trough with a fine grid at the far end. We would spade the gravel into the trough, and run water over it. The finer particles would fall through the grid and were then sieved. This is backbreaking work. You take a set of three or four circular sieves of different grades, finest at the bottom. Put a spadeful of gravel into the top one. Spin it round underwater, lift it off. In the centre, if you are lucky, you will see small black particles, called 'carbons'—these are half-made diamonds. No use, but they indicate that there are diamonds around. You keep on sieving, going



**The author filming a crowd of Negro children in Georgetown. This was the time of the general strike when these children were being given free meals by the Anglican Church**

through the various grades. Diamonds have a higher specific gravity than gravel, so they tend to move towards the centre of the sieve. Perhaps you might be lucky—in the centre of the finest sieve you might see a tiny glittering particle. If it is not quartz, if it has a regular shape—it might be a diamond."

Diamond miners are modest talkers. They have learned discretion. Claims are still jumped, sometimes with violence. So I had difficulty in getting Eugene to talk about his successes. But it seemed that, undismayed by two years of unprofitable work, he returned to the jungle for a second trip. This time he found good "pay gravel," and he and his friends returned with something over £4,000. Thirty years ago, that was good money. He returned, again and again, made more good finds, then started buying diamonds from other prospectors as an agent for one of the big European firms. Now he is an acknowledged expert, and travels frequently to the USA and Europe. But he still "grub-stakes" the individual prospector who shows promise.

I ended with two questions. What was the highest price ever paid in the colony for a single diamond? And what were the chances now for a young man to strike it rich? To the first he answered "£20,000 for a hundred carat stone." His second reply took longer. "There were about 2,000 miners in the colony in 1957," he said, "and perhaps ten of these were really making money from the searches. But in that year a great find was made in the Kurupung area. Diamond production almost doubled in twelve months, and about three thousand more hopefuls set off upcountry. Many of these have been disappointed. I'd say that the chances are about 200 to one against striking a rich claim.

"And then you must remember that claims today belong to syndicates. Before 1957 most workings were as I have described, pits sunk into the river bank or in small streams. These got pretty well worked out. Then people began to think, if we used to get diamonds from the banks of the rivers, why not from the rivers themselves. So they started using diving gear to bring up gravel from the river beds. That was how the big strikes of 1957 were made.

"But all this gear is expensive. You've

got to have a pontoon, air compressors, diving gear, and nowadays a suction dredge as well. It can cost thousands of dollars. Everything has to be flown in these days, and that, too, is expensive.

"As a result, the industry has settled into a pattern of perhaps five or six large syndicates who own large areas of claims in the best diamond country. A young man who wants to set up on his own has to face some pretty formidable competition. If he makes a big strike when he's working for a syndicate, he has to share fifty-fifty with the boss. And he stands a pretty thin chance of finding anything if he is not working for a syndicate."

Disappointing words? Not to me, because I had never come with the idea that I was going to make a fortune for myself. I was concerned with putting on film and tape the life of these men. If I could make enough out of my work to finance another film then I would be happy. But I had already met enough young men in bars in Georgetown to convince me that you had to be tough, patient and extraordinarily lucky to make your fortune out of jungle diamonds.

But there was one man who had combined these qualities. And won. In 1957 George Golas had left his native Poland, and was working as a taxi driver in Toronto. From one of his fares he learnt of the fortunes to be made in British Guiana, decided immediately to try his luck and headed south three days later. It took him two years to make a major find, but it was a good one. Now, using two Cessna light aircraft, he supervises the work of sixty men prospecting all over the Interior. He is said to be a very rich man.

I told Eugene that I was waiting for George Golas to take me into the diamond country, but that after two weeks he had not shown up. "Oh, George is a very busy man, and we never know when he is going to show up," replied Eugene. "But if you want to go upcountry, why not come with me?" I thought quickly, checking gear to buy, jobs to do, then accepted. "I'm leaving tomorrow for Kamarang Mouth," Eugene said. "That's where George has his headquarters. We take off tomorrow at eight in the morning from Atkinson Field."

**NEXT MONTH: "THE LOST WORLD"**

# SLEEP-LEARNING BY TAPE— DOES IT REALLY WORK?

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**H**YPNOPAEDIA (sleep-teaching) was practised by ancient Egyptian priests who taught the scriptures to sleeping novitiates in specially built slumber temples.

Since those very early days much has been written about the art of sleep-learning. Aldous Huxley described a world in which citizens would be conditioned along lines useful to the state using the system, and more recently world-wide experiments have been carried out by American Universities who have closely examined the use and mis-use of this method of teaching.

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● The foremost suppliers  
of Sleep-Learning Equipment in Britain.

In England last year, the Sleep-Learning Association was formed. Designed to promote and encourage interest in the use of sleep-learning techniques in Great Britain, it now has a membership of almost 600 members. These are drawn from every walk of life, are of all ages and both sexes. The majority are actively engaged in using sleep-learning methods to supplement learning or therapy.

The Association is gathering a record of the experiences of members and the results of group tests. These already provide a fund of fascinating commentary on the subject. Most people accept the principles of sleep-learning, but as "the proof of the pudding is in the eating," we have now arrived at an assessment of the practical aspects. Does it really work? How well does it work, and what is the best equipment to use for efficient results?

It most certainly does work as many persons have found, possibly a little to their own surprise. Obviously belief in the system is desirable, but continuity of study is essential. Bernard Braden began tests in his television programme "On the Braden Beat." Viewers saw members of the production team in bed each with their tape recorder in position. A month later report on progress made was to have been given, but one by one members of the team had had to relinquish their nightly studies due to work commitments around the country. Dennis Pitts of Granada Television also carried out tests. He studied French, but discontinued the course and again, results were not forthcoming.

Continuing their attempts to have their system proved as quite practical, the Association arranged a course in Spanish for Mr. Peter Williams of Southern Television. Two initial programmes were included in "Day by Day," showing Mr. Williams first of all preparing to study the language, and later in bed, complete with tape in position, playing the Spanish sound-track via a pillow speaker. In a later programme, Mr. Williams managed a 3½-minute interview with Senor Pepe Leon in the presence of Mr. Geoffrey Stocker, president of the Association.

More recently, German-language lesson tests were carried out at the Association's Dormitory in North London. Mrs. Phyllis Pilgrim, a teacher, and Miss Kirsteen Clark, student, having no knowledge of the German language agreed to sleep each night on

the premises acting as voluntary "guinea-pigs" in an observed and controlled test. A Uher Universal 5000 tape recorder, featuring automatic rewind facilities, was operated from a control room. This enabled the girls to sleep naturally and normally without the possibility of distraction caused by the apparatus. Occasionally they reported consciously hearing the playback, but for the most part they were unaware of the sounds being played.

They underwent a two-week period of "conditioning," with a special tape being played to relax them and prepare the subconscious minds for reception of the German language they were to hear. After the conditioning period, the test went on for three more weeks before the German tapes were played.

A panel of invigilators, including a representative from London University, observed the conditions and method. Mrs. Pilgrim has since been tested and found to have seventy per cent recall of German. Tests have not been completed on Miss Clark, who is to be examined during July.

The tests carried out by the Association have shown that excellent results may be obtained with any good brand of domestic tape recorder providing the playback is accurate and free of distortion. What is heard from the playback will be recorded on the malleable substance of the subconscious mind. Obviously with a language, accurate pronunciation and undistorted playback is essential.

At present in this country most people are using the ordinary tape recorder, a domestic time switch and a pillow speaker (extension speaker), obtainable through the Association.

Specific equipment recommended by the Association after many tests includes: the Uher Universal 5000 tape recorders, with automatic rewind; the Telefunken M55; Venner Autopoint time-switch or Sangamo Weston domestic time-switch. (So far they have been unable to locate a smaller time-switch with two or three on and off devices); the pillow speaker made to their own specification as mentioned above, and the American Cousina Audio-Vendor or Endless Tape Cassette for repetitive playback.

The important key to success is the Conditioning Tape as most people are conditioned by upbringing and circumstances to resist the idea of learning in their sleep, and this must be eliminated.

The Association stresses the importance of the student gaining some knowledge of the psychological aspects of sleep-learning before purchasing equipment. The importance of this cannot be over-emphasised. A large amount of recorded data of tests



and experiments, particularly from Russia which has carried out extensive experiments for more than thirty years and is the most advanced country in this field is held by the Association which gives every possible advice and co-operation of its members.

The Conditioning Tape, made by Mr. Geoffrey Stocker, has the effect of conditioning the mind to full receptivity, and of relaxing the student physically as well. This does seem to be an integral part of the process of learning during sleep. A number of people view it with slight suspicion, imagining it to be a "sales gimmick," but four in five come back at a later date and request it as they have not had the success they thought they would achieve. After this, they prove its worth for themselves and are satisfied.

One item of equipment necessary for sleep-learning is the Endless Tape Cassette or Cartridge. This is a cassette from which tape winds and is rewound after playback, ensuring a continuous repeat of approximately fifteen minutes of recorded material.

The Association recommend the use of this when precise passages of material have to be learned in a very short time. Repetition, as in all types and methods of learning, is extremely valuable. It can be repeated four times an hour, and a good technique to adopt, is to playback for an hour and a half, say an hour after falling asleep, and pre-set the time switch to come on again an hour before normal waking time. This gives twelve repeats and excellent results are being obtained by use of the cassette in this fashion.

The two cassettes obtainable in this country, through the Association, are the Telefunken ETC at £2 17s. 6d. and the Universal Audio Vendor from USA at £5 5s. The Telefunken ETC can only be recommended for use on the Magnetophon 55 Tape Recorder, as the braking system suits it, but the American Audio Vendor Cartridge, a much tougher job, seems to work satisfactorily on most good brands of recorder.

It is not a good idea to playback throughout the night, as psychiatrists studying sleep believe that it is necessary for us to dream, therefore the Association suggests that four clear hours are allowed during the night, between two periods of playback. In using the 45-minute conditioning, therapy or language tape, once nightly, this question naturally does not arise.

No wider claim is made for sleep-learning than that it supplements the more orthodox methods. It is a modern way, with the aid of tape recorders and tapes, of utilising a natural process which goes on in the mind all the time.

Children supplementing school lessons; older people who find it difficult to memorise new material; medical students and music students, foreigners anxious to master another language—all find their own unique advantages in sleep-learning.

Since each person is unique, there can be no hard and fast rules about how long it takes to learn French, or Greek or Russian, for instance. Naturally one cannot expect to put on a tape of another language one night and wake up speaking that language in the morning—as one enthusiastic inquirer imagined. Unfortunately it is not quite as simple as that. But given observance of a few basic rules, use of the conditioning tape, an open, expectant mind, results can be astounding. The percentage of results range from 30 to 90 per cent recall, and when difficulties do occur, they invariably have a psychological origin. Stresses and strains have become lodged in the subconscious

*Continued on page 308)*

# Well, what would you do?

A short story by  
Thomas R. Burn

**H**AVE you ever tried to explain sleep learning to a policeman? It is daunting enough to see the officer's look of blank disbelief when you explain your car has waited overlong because a shop assistant was slow to serve you, therefore to babble of sleep learning when your pockets are bulging with stolen nylons is frankly ridiculous. I told Brian so, but he gazed at me piteously across the probation office desk and wailed, "But it's true." I shall have to put his point somehow to the court but it is going to sound unusual. Consider it for yourself.

Brian is an alert young man of twenty, intelligent, ambitious, smart, but a trifle shy. It was the shyness which made him take up the radio psychologist's course which is relayed each evening on the commercial channel. Brian wanted poise, confidence, dynamic thinking, and this course promised it all.

It was a pity that the programme was broadcast at six-fifteen but like many "with-it" tape fans Brian had his automatic timer, and his tape recorder had an automatic stop. All he had to do was go through the lesson once before bed time, then reset the tape and the clock, connect up his under-pillow speaker and into his unconscious mind at dead of night poured the instructions, confidence, poise, vitality, vigour, making of the diffident Brian a man of mettle. That was how Brian explained it all to me but I reminded him again of the summons which had been brought. It stated quite clearly "Larceny of one dozen pairs of nylon stockings."

The offence happened on Tuesday at lunchtime. Brian remembered waking up in the morning and setting off to work with a new spring in his step, he felt very sure of himself, and glancing at his confident stride as he viewed his reflection in a shop window felt that his sleep learning must be working. This was a new Brian. It was also a new Brian who ordered black coffee at lunch time instead of meekly accepting the white variety so often brought by the waiter, and, as the shop assistant said, it must have been a new Brian who took the nylons.

He had heard with horror the shop assistant's story. "There he was" she said, "Smiling at me, looking me straight in the eye while he filled his pockets with Black Princess Nylons. Then with a last little flourish he tucked the last pair in his out-

side breast pocket and with a wave of his hand he was gone. I had to call the manager who brought the police in." She ended with an imploring look at Brian for having to let down such a nice young man.

I could picture the scene but now brought my mind back to the office with Brian staring at me solemnly. "Let's go back to Monday night" I suggested, hoping to shed some light on the link with the tape recorder.

"Well" Brian began slowly, "I had left everything set up for the recording, and I knew I had to work later at the office. Unfortunately I had to work extra late because there was a power cut lasting nearly three-quarters of an hour. We had struggled on with candles but when the lights came on again we had to press on to make up for the delay. I live only a block away from the office, but by the time I had supper I was glad to just reset the tape without playing it over, tumbled into bed with the pillow speaker under my head, and went fast asleep."

"So you want to suggest that you committed the offence because you were overtired?" I asked.

"No, No," cried Brian looking as if he felt no one could ever understand. His eyes searched the room for a power point, then I realised that what I had taken for a small suit-case was his tape recorder. Kneeling down he undid the lid, plugged in the connection, and adjusted the tape.

"Listen," he pleaded.

The capstan turned and a rich coaxing voice began "Don't wake up, sleep on but take in the message, you are *strong, confident*, you will face the day boldly, you will obey this inner voice. . . ." This continued with much repetition, then there was silence, except for some tape hiss as it slipped over the recording head. I looked at Brian but he held his hand up to keep me silent, it was a minute or so before the voice began again.

The voice—a different voice—beginning inaudibly as a background then growing in volume and insistence. "Black Princess nylons are the best in the world, get a pair today. Better still get a dozen pairs." This was a command in a firm manly voice, then a women's voice, softly, insisting, coaxing. "Take a dozen pairs today. They're priceless."

Poor Brian, I began to understand. The power cut had stopped his machine near the end of the Psychologist's pep talk, and the electricity had been restored just in time to let the recording of the commercial advertisement reach the tape before the machine's automatic stop operated. If only Brian had checked the tape before he went to sleep. But he hadn't, and whilst he slept his sub-conscious had accepted an instruction to steal.

We looked at one another considering the implications. I pictured the Bench with the venerable but practical retired Major in the chair, I recalled the old-fashioned police superintendent and his cross examinations. I imagined myself beginning: "Your Worship, this young man had an unfortunate mishap with his sleep learning equipment. . . ." and visualised the Chairman looking down benignly, "Sleep learning? Mr. Probation Officer, what is sleep learning?"

We spent a long time discussing the matter, Brian and I, and eventually I completed my report. Brian is going to plead an unexplainable impulse, he will mention overworking and undersleeping, but sleep-learning?

Well, what would you do?

# Ray King in America

(Continued from page 303)

High-class equipment is used throughout, and the overall effect is so good as to be staggering.

Staggering also was the quality of play-backs I heard when guest of R.C.A. Recording Studios in New York. The Studio Manager was a charming host, and most interested to hear of amateur efforts in Great Britain.

A complete tour of the studios revealed that a large selection of equipment by various manufacturers is used, though Ampex features largely. Original recordings are produced at these studios. When I was there, the BBC Symphony Orchestra was to be one of their productions. Both for stereo and mono recordings the mixing panels feed to half-inch tape machines

carrying three tracks. The three tracks are later "master-mixed" to conventional quarter-inch tape on two channels, and from these the original discs are cut.

I took the liberty of running my Fi-Cord whilst sitting-in on a session, and listening to the recording after on my mains machine I was pleased and surprised at the quality obtained. This proves once again how important good studio conditions are to would-be music recordists.

Radio City Music Hall also featured on the Treasure Tours Schedule. I would have liked to have recorded the whole programme but I was so exhilarated by the size of the place, and the superb music and programme, I quite forgot all about my recorder parked under my seat!

The same excuse goes for a transmission

of America's Candid Camera Television show, which I was most interested to watch as guest of the N.B.C. organisation.

Since my return, many interested people have asked me if the tour was useful to me as an amateur recordist. Well, apart from the wealth of material, but a small portion of which I was able to record, I think the lesson I have learned is the need for self-confidence when recording in public. I know it takes quite a lot of courage to approach a complete stranger, microphone in hand, and start talking. When using portable recorders in the field, one must also master the art of setting levels by experience. Distance of microphone from mouths, taking background noise into account must be rehearsed and practised until your technique is automatic, and is accomplished without any thought being given to it at all. Once this stage is reached I think a better and certainly more interesting recording is obtained since all your conscious thought is given to guiding or directing the conversation, and not to twiddling the knobs.

I was surprised to find when recording in the street in New York that a small crowd always seemed to gather about fifteen feet away. This sort of thing doesn't seem to happen to me in Britain, and I am glad since several recordings have had to be discarded through people coming up to me and asking: "Say, you a radio man?"

Thursday April 29 came all too quickly, and I switched on my machine at 1 pm on that day, to record my impressions as I once again boarded the *France*. I caught the announcements asking all visitors to go ashore, the hoots of the tugs, and the farewell blasts of the ship's mighty horns. I described our journey down the Hudson River, again passing the Statue of Liberty, and eventually out into the Atlantic.

Once again, Mr. John Midderham my guide, and by this time firm friend, had been so very kind in getting permission for me to visit the Bridge of the ship and meet the Captain.

## Fitting climax

This was a tremendous thrill, and a fitting climax to the whole trip. I described what I saw, spoke to some of the Ship's Officers, and braced myself to meet the Captain.

Unfortunately, the little schoolboy French I speak and understand did not make this interview one of my best! However, all the atmosphere is there, and it's not everyone who meets the Captain of a ship the size of the *France*.

Soon I was nearing The Needles off the Isle of Wight, and gradually coming out of what had seemed like a dream of some twenty-seven days' duration. There was Southampton again, and waving vigorously my forbearing wife, whose kindness in running my business during my absence made it possible to go at all.

I was home, and after a couple of days to get back into harness, anxiously set up my mains machine for the first playback.

There I was again, a sound picture which brought it all back to me so vividly. So well worth the effort to produce, a tape which will be my most prized for the remainder of my life.

Good luck, fellow enthusiasts. Start recording now and enter the next British Tape Recording Contest, it may well be your turn next.

Who would have believed that anybody could travel 10,000 miles on 200 feet of quarter-inch tape? I did!

## TAPE reports on sleep-learning

(Continued from page 307)

mind, forming "blocks" which can usually be removed by conditioning.

Coming from the psychological aspect to the technical, the pillow speaker made by the Association is a unique feature of the Sleep-Learning Pack for Beginners. It is constructed to produce a whisper effect and is extremely attractive, being a velvet-covered cushion of approximately six inches across. This fits snugly just beneath the pillow slip, pressed down into the pillow itself to give a smooth surface for the comfort of the sleeper. There is no necessity to sleep with the ear glued to the speaker. Wherever the head moves on the pillow the sibilant whisper (set at 3 or 4 on the Magnetophon 55) can be heard quite distinctly. As it is fitted with an eighteen foot flex, the tape recorder can be placed in another room, or away from the bed in the same room. Married couples can use two pillow speakers soldered on to the one plug if required.

There is one problem which does concern a lot of tape recorder owners who inquire about sleep-learning techniques, and that is the effect of leaving the recorder in the play-back position, controlled completely by the mains via the time switch, which means that "flats" may be worn on the rubber drive-wheels. With the Telefunken Magnetophon 55 recorder this difficulty is overcome as all mechanical pressures are removed when the mains go off and no "flats" can be made on the rubber drive wheels no matter how often the machine it switched off by the mains.

Excellent sleep-learning results are being obtained by using the equipment described earlier. The Uher Universal 5000 at 89 guineas has more technical refinements, and the added attraction of automatic rewind, which gets over the problem of how to use 45-minute tapes twice in one night. The Association would like to see the technical people produce a cheaper type recorder with this facility, but no doubt there are production costs which at present prevent such a recorder appearing on the domestic market.

The routine to be followed for those embarking on a course of sleep-learning is not unduly complicated. With the Sleep-Learning Pack for Beginners or more elaborate equipment if you are technically experienced, the Conditioning Tape is used initially for three nights while awake, lying comfortably in bed listening; then for a night or two while dropping off to sleep, and then during sleep. Set the switch at "off" at the end of the period. After two or three weeks of this nightly conditioning the next step is to use a part pre-recorded tape, i.e. one on which ten minutes of conditioning have been recorded, plus the material to be learnt.

Results in language learning by using the Association's Holiday Language Tapes show conclusively that anyone can gain a grasp of a considerable number of everyday phrases suitable for use on holiday in a foreign country after two weeks' conditioning and two weeks of playback of the language tape. This does not mean to say that a comprehensive grammatical study of a language has been achieved; simply that after this brief training the student can speak intelligibly in the new language, and with a good accent.

Subjects already being learned by sleep-learning techniques include all the normal languages, Morse Code, Highway Code, the theory of shorthand, operas and piano concertos, the streets of London (for a young taxi driver), chemical data and scientific formulae; medical studies and childrens' school lessons.

Therapy Tapes include programmes on Slimming, Overcoming Smoking, Insomnia and tapes to gain confidence, plus the inevitable "How to study for examinations with maximum results."

The Sleep-Learning Association, with its London Sleep-Learning Dormitory and its Residential Centre in the Cotswolds, where a number of observed tests are being made, expects to collate an increasing amount of positive reports in the coming year.



# TAPE IN THE CLASSROOM

TO the enthusiast it's always a shock to learn that dozens and dozens of tape recorders lie idle in cupboards up and down the country. No—not the new ones in your local dealers' but large expensive machines purchased and literally given away! They are seldom used now because the instruction manual has been lost or because someone tried unsuccessfully to operate them, took fright at the cost of this complicated piece of equipment, and put the tape recorder under lock and key.

Where are they? In schools and colleges all over the place.

Of course not all remain idle. However, there does seem to be a shocking apathy in schools towards their use and application. Many teachers point out that a lot of this disinterestedness stems from ignorance, lack of instructional material in the libraries of the schools themselves, and a genuine fear on the part of many teachers of "something going wrong" and no-one to turn to for advice.

There are those who are trying in a practical way to encourage more teachers to take a real and active interest in the use of the tape recorder. They are arranging one-day conferences where the staff are being shown how and why they could be getting the most, or at least more, out of the school's machine.

Recently, at Bolton Technical College, the Senior Lecturer in English and Liberal Studies, Mr. H. C. Griffiths, together with several assistants arranged a most successful weekday conference. The talks centred on the creative uses of the tape recorder in the classroom with discussion and demonstrations of documentary projects and the production of drama. The teachers were also shown how to work and use the machines, and there was an exhibition in the lecture room of tape recorders, microphones, tape accessories and books.

## A TEACHING MACHINE OF SOME CONSEQUENCE

Similar in aim but broader in application was a Refresher Course for Teachers of English held in June at a London Teacher's Training College. Organised by Miss Emeline Ganett, the lectures were given at the Cavendish Square College. The tape recording in the classroom lecture was accorded an exceptionally large chunk of conference time because, as the lecturer Miss Muriel Fenn put it, the tape recorder is a "teaching machine" of such magnitude to be worthy of continuous attention.

## EDUCATIONAL TAPE LIBRARIES

This lecturer set out more to encourage teachers to experiment with "Sound" in the classroom in order to stimulate various kinds of creative expression on the part of the children. Reference was made to some London schools where special programmes are prepared using the tape recorder for music, movement and mime classes.

Miss Fenn went on to point out that with an ever-increasing number of immigrant children in their classes the tape recorder had yet to be utilised fully for the teaching of languages. Some teachers have done admirable work along these lines but many,

## Two colleges organise tape courses for teachers



"Sound is a living thing . . . to be used in education to stimulate and inspire the youthful"  
—Lecturer at Cavendish Square College

already overworked, find little time for the making of practice and master tapes. Out of discussion, a suggestion which received considerable support was one for educational tape libraries run on the lines of existing educational film libraries. One of the special facilities which might well be offered by such tape libraries could be a copying service.

A most interesting facet of this lecturer's technique was the demonstration of a variety of older machines and equipment. Contrasting them with the latest models Miss Fenn showed that despite their limitations these older machines can be relied upon to produce excellent and thoroughly creditable results.

Between lectures and afterwards in tutorial rooms set aside specially for the purpose at the College, two of the Staff and some of the students demonstrated tape recorders and allied equipment, to assist those who lacked confidence in their ability to understand and control mechanical apparatus. Almost all of the teachers attending the Course at one time or other were to be found in those rooms.

## SOUND AS A STIMULUS

Miss Fenn concluded her lecture with some well-chosen words. "Sound is a living thing . . . to be used in Education to stimu-

late and inspire the youthful. . . ." One wonders, though, should it be left to the enthusiasm of individuals? Do all education authorities offer school staff sufficient facilities for developing interests in tape recording? How many schools have tape recording books or magazines on their library shelves?

## FURTHER COURSE

A further course, designed to give an insight into the technique of making sound recordings, and to get the best out of existing machines is to be given by Hounslow Education Committee in September.

Notes on construction and maintenance will be included, and of special interest to teachers will be lectures dealing with the application of recorders in the classroom. Notes on the teaching of languages using tape recorders and language laboratories will also be given.

The course, to be held on Wednesday evenings starting September 21, from 7-9 p.m. will also include special applications of stereo and mono, and sound on tape or film for cine work. The fee for two terms is £1 and enrolment dates are September 9, 10, 13, 14 and 15. Further details are available from the Brentford Centre for Adult Education, Clifden Road, Brentford, London.

WE have seen in the previous articles that by some slight adaptations of familiar audio recording techniques, tape recording television is a practical, and very successful, proposition. In the systems I have described so far, two-inch wide mylar tape is used, "scanned" across its width, in a series of tracks (at 1,000 tracks per sec.), by a spinning headwheel carrying four record/playback heads.

The headwheel spins at 15,000 rpm, and thereby achieves a head to tape speed of effectively 1570 ips. The tape is moved, meanwhile, conventionally at 15 ips and audio and control tracks made along the edges by conventional means.

The 250 cps control track acts similarly to the sprocket holes in a cine film—it ensures registration of the narrow tracks laid down by the recording process with the head that is to replay them. The recorded video tracks are 10 mils (0.01 inch) wide, with a guard band of .005 inch between them, and the replaying head must track approximately down the middle of the tracks to avoid the tragic effects of replaying two at once.

Another difference is that the vision track is modulated on to an FM carrier of from 4.2 Mc/s to 6.8 Mc/s before recording, and demodulated during playback. In other video recorders, such as the now obsolete Telcan unit, and the ill-fated VERA (Vision Electronic Recording Apparatus designed by the BBC) it is

# TAPE RECORDING TELEVISION

Continuing his series of articles on recording television images on tape, JOHN VALENTINE describes the last main difference in video technique—switching heads during replay—and explains how the Ampex video recorder can be used as a fantastic audio recorder.

just the other way round. That is, the tape is pulled past the heads at great speed to accommodate the large vision bandwidth (up to 3 Mc/s on 405 lines), and it is the audio track that has to be put on the FM carrier. Of this matter more later.

But to continue, for the time being, with the systems as supplied by RCA, Ampex, and others. In this article, the last main difference in video technique will be described, that is, switching heads during replay.

I hope also to give a quick outline on how an Ampex-type recorder can be a fantastic audio recorder—if a little noisy in both senses!

## THE SWITCHER

As described earlier in this series, the Ampex- and RCA-type recorders have in effect four signal chains, supplying to, and

playing back from, four heads. In the "record" mode, the FM carrier with the Video on it, is simply supplied to all four heads, all the time, through the slip rings, via four power amplifiers. The heads, you remember, make contact with terra firma through practically conventional graphite brushes.

During playback things are slightly more complex, however, since (a) it isn't possible to ensure that (say) head No. 2 starts its sweep across the tape at the instant that head No. 1 finishes. Some time is taken for the rapidly moving head (100 mph) to establish reliable contact with the tape;

(b) Each head has a 120 degrees arc of tape contact, causing 30 degrees of overlap. It is not permissible for two heads to replay at once—the effect on picture quality is quite hopeless; and

(c) While three heads may not at a given time be in contact with the tape, they are still thrashing round in all sorts of stray magnetic fields, and generating noise. We must switch on a head only when it generates useful signal—i.e. when it is in contact with the tape. (Fig. 1.)

So, as a head, during its travel, comes securely into contact, it is switched "on," and the three others switched "off." The rate of switching is, of course, 1,000 switches per second, that is, conveniently, four times the control signal frequency of 250 cps!

## WHEN DO YOU SWITCH?

There are a couple of points worth mentioning. Even with a rapid electronic switch, due to inevitable slight differences in heads, inductance, received carrier phase, etc., at the instant of switching, a small disturbance occurs. This shows as a small black-and-white dot on the screen.

If the times of switching heads are at random, the effect is of bands of dots whizzing about like demented bees. It thus, has to be organised so that the switching instant is during the blanked-off period of the electron beam, in the TV receiver, that is, when it is flying back to retrace a fresh line on the screen—the "flyback suppression."

Secondly, a switch must never be allowed to occur during the four-line period in which the frame synchronism is reproduced, otherwise the picture may fail to interlace properly (I personally think that it seldom does anyway). To this end, it is arranged that frame sync is always recorded bang in the middle of a head sweep across the tape.

The problem resolves itself quite neatly. BBC 1 and ITV pictures have  $202\frac{1}{2}$  lines each, repeated fifty times a second. They are alternately advanced and delayed in time by half a line's duration so as to simulate 405 lines at 25 repetitions, the alternates being accurately interlaced, we hope.

We know that when playing back we must divide up 405 into "packets" containing a

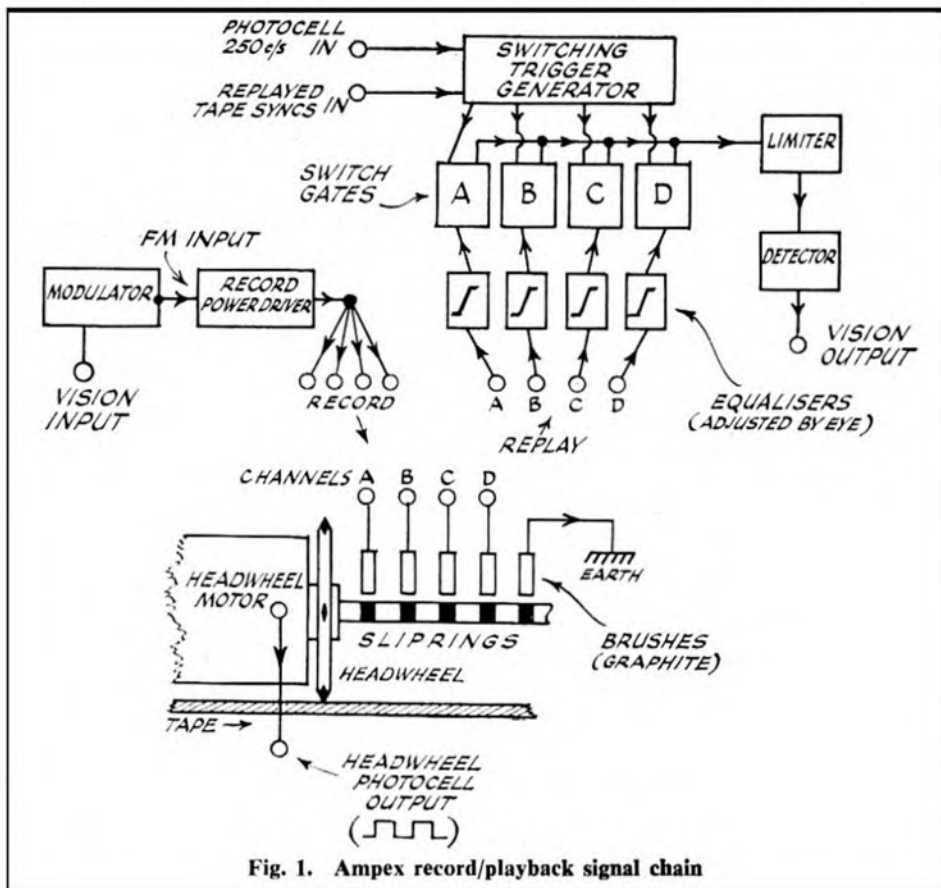


Fig. 1. Ampex record/playback signal chain



# TAPE RECORDING TELEVISION

whole number of lines, to avoid the beehive effect. Unfortunately, 405 as a number, does not have many convenient whole factors.

The only pairs that are remotely of any use are 5 x 81 and 45 x 9. It would be possible to make recordings in bands of 5 lines, or 81, 45 or 9 bands per complete frame, or picture, but the total number of bands per frame must be divisible by four. None of these figures are. If this requirement is not met, the "staggering" of sections of the picture (see Fig. 3) will not appear to stand still (and therefore will be

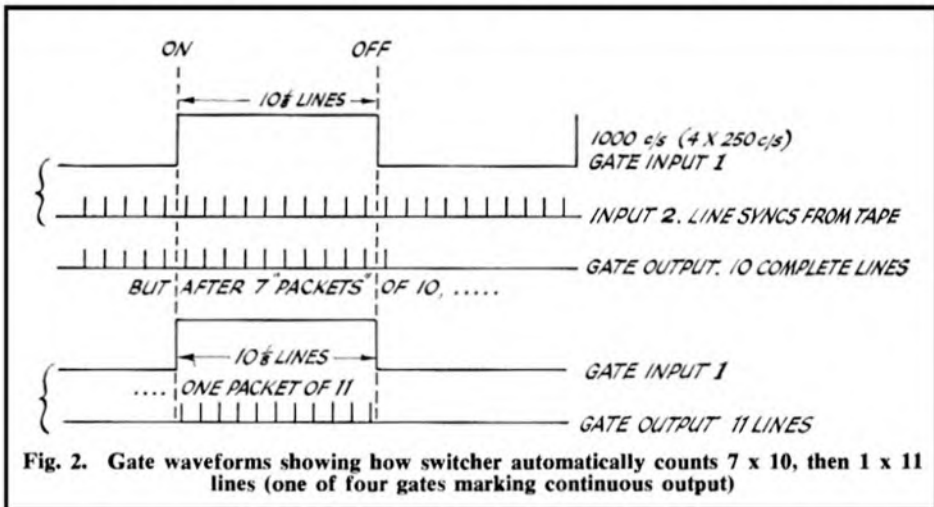


Fig. 2. Gate waveforms showing how switcher automatically counts 7 x 10, then 1 x 11 lines (one of four gates marking continuous output)

very visible). These staggers are the inevitable outcome of manufacturing tolerances. Thus the same head must replay the same sections of successive pictures.

## THE ANSWER

There is rather a lot of this, I realise, but a few minutes thought will make the problem clear. In practice, forty tracks per picture are used, containing an average of  $10\frac{1}{2}$  lines each. To avoid having to switch heads  $\frac{1}{2}$  the way in,  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$  and so on, giving rise to sloping bands of dots, seven packets of ten complete lines and then one of eleven, successively, are played back.

The switching module, then, lets ten lines trickle through seven times, and then eleven switching in—between the packets. The logic that makes this possible rests in using the square wave from the headwheel photocell. This square wave lasts for just  $10\frac{1}{2}$  lines duration. Delayed and advanced in time, versions of it are also obtained. These square waves are applied to one side of electronic gates which allow an output only when there are two inputs. The other input is simply line syncs replayed from the tape. Thus the gates allow only whole numbers of

pulses through, ten seven times and then suddenly eleven will just fit into the gate (it's slightly longer than ten lines, remember) and comes up with the right switch impulses (see Fig. 2).

This explanation is a simplification of a rather long winded matter, though a simpler version exists in the Ampex model 1002. This switches heads in opposite pairs—at the cost of increasing the replay noise power by 3 dB. This operation follows well established logic electronic practice, it is worth noting that the RCA model switcher measures only  $1\frac{1}{2}$  x 6 x 18 inches.

## PICTURE FAULTS

The effect of head stagger has been commented on earlier, and its effect demonstrated by Fig. 3 which purports to display vertical straight bars on the screen. The staggered sections come as a result of the heads on the headwheel being not exactly at 90 degrees to each other. Notice the bands of ten and eleven lines portrayed occurring slightly irregularly in time. However, provided this error is not too severe, and, most important, appears static, it doesn't appear too bad.

The figure also shows the effect of the heads digging into the tape too much or too little, giving rise to staggering within a single band—the "venetian blind" effect.

author connected one end of about 10 ft. of wire to a wide-band amplifier. The output was fed to an Ampex model 1000 C recorder, and a short recording was made.

On playback, an ordinary transistor portable radio was fed with the Ampex output, straight into the aerial socket.

It was found that the entire long and medium wave broadcasting band of a few

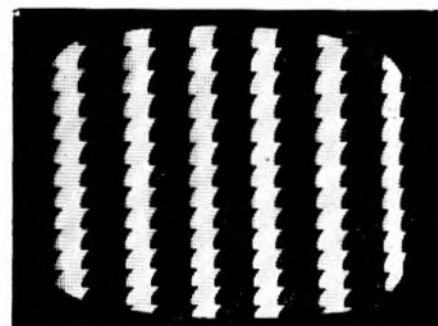


Fig. 3a. Skewing and scalloping pattern: guide too high and too far from headwheel

minutes before had been recorded! Carriers, music, interference and all, and it was possible to tune the transistor up and down the Ampex output ad lib. It had recorded every single station!

An interesting side issue came out of this. In TV practice a noise separation of -30 dB from signal is regarded as quite good. In one of the brief periods of silence on the "aerial" recording made, a noise measure-

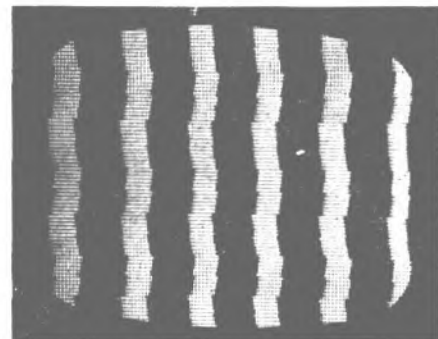


Fig. 3b. Quadrature misalignment (Stagger)

ment was taken, and it was found to be better than -36 dB.

The conclusion drawn was that since with the receiver we were only observing a tiny fraction of the recorder's output at a time, we were only "seeing" a fraction of the noise.

## NEXT ISSUE

This article has probably been I fear rather more scientific than readable, but I hope that it has shown some current malarky with a tape recorder that is going on, to extend its potential. In the next issue, processing operations to improve quality, equalisation, biasing and professional TV recording chains will be described, and we shall discuss the revolutionary effect of the video recorder on the television industry that has taken place in the last couple of years.

I will also be reporting on a day's work with a works-made Wesgrove VKR500 amateur video recorder. Meanwhile it is worth recalling the Editor's comment in "Tape Trends" (May issue): "The trend is clear, well-tested equipment for the home at a price people can afford is not far off."

## AN INTERESTING EXPERIMENT

As a demonstration of the video recorder as a fantastic storer of information, the

# The business of bias

By HARRY MACK

AS indicated toward the end of the last article in this series (October 1964), h.f. bias plays an important part in tape recording. Much more important than many non-professional users care to admit. This may be because its effect is not obvious, and its alteration well-nigh impossible on the average machine. Like the last step on the stair, it makes itself known by its absence.

First: why is it needed, and can we do without it? Well, yes, we can manage passably well with a d.c. bias, as many battery portables used to do. But the two main disadvantages are a high noise level and head magnetisation, which accentuates noise still further.

As the tape passes the recording head, it is magnetised by the bias current. Unfortunately, even the best of tapes has some surface irregularity and thus on replay this theoretically constant bias

becomes a minutely varying field, which causes an EMF to be induced in the replay head. The audible effect is a high-pitched hiss; this is also the symptom of a magnetised head and one of the ways the defect may be recognised.

As to why it is needed: the only way this can be explained without pages of notes is by a graph-type diagram, so I make no apologies for inflicting Fig. 1 on the reader. This merely shows the way the magnetic flux-density in the oxide coating of the tape varies as the magnetising force applied by the recording head is made to change. The coordinates of the graph are (B) the flux in the tape, and (H) the magnetising field at the head gap. It can be seen that the curve is symmetrical, indicating that the variation of flux and field is in a positive and negative direction, but the graph is not a straight line. The curve, called the

transfer characteristic, has a decided kink in the middle. If it were a straight line, signals would be recorded without distortion even if no bias were used.

In fact, a signal such as indicated by the thick line of the input portion of the drawing would come out distorted as the thick line of the output portion, were no bias applied. But, of course, if the straight portion of the characteristic could be used, there would be no distortion. Which is, in effect, what is done when DC bias is used. The axis about which the output curve is drawn simply moves up or down to come within the limits of the straight portion of the tape transfer characteristic.

And this also, believe it or not, is what is being done when AC bias is applied. Referring again to Fig. 1, we note that the input signal is now mixed with the bias frequency in such a way that the audio variation (which is what we are concerned with ultimately) transfers on both the upper and lower portions of the curve. Provided that the magnitudes of bias and audio signal are kept within the correct bounds, no distortion occurs. The output of the audio signal is a faithful replica of the input: in other words, the flux variation on the tape is a replica of the audio signal applied to the head.

\* \* \*

Observant readers will note that I cheated there. It is not quite true to say there is no distortion. Actually, the bias waveform is distorted, as you will see if you compare the high-frequency waveform of input and output portions—this time it is not my bad drawing! As the bias frequency is supersonic, this distortion is not reproduced. We hear only the audio signal, or the envelope of the curves in the diagram. The "gap effect"

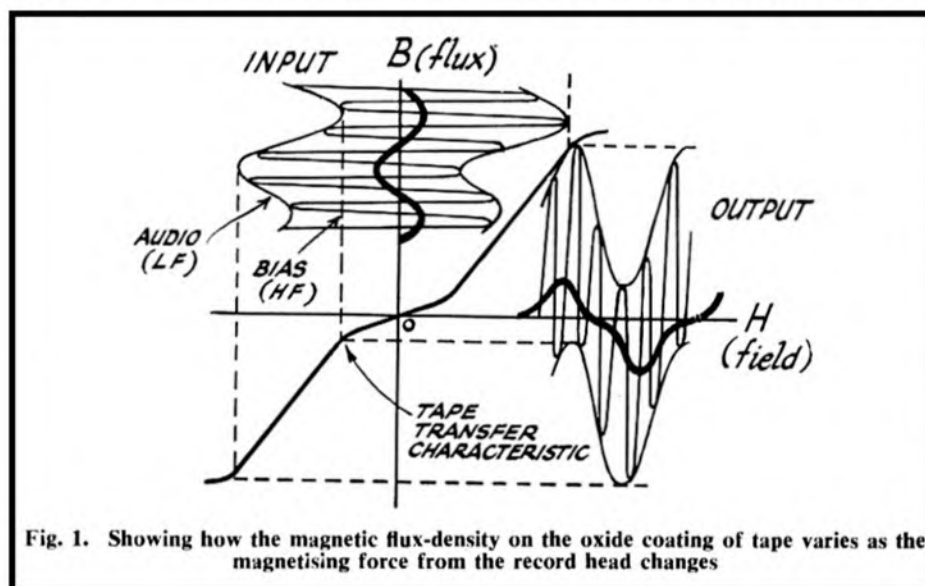


Fig. 1. Showing how the magnetic flux-density on the oxide coating of tape varies as the magnetising force from the record head changes



in the playback head ensures that the small amount of bias signal that is recorded on the tape cannot affect the recording, the variation of the bias is so rapid compared to the wavelength of the audio signals that the individual magnets formed in the oxide (and all recordings can be regarded as a series of tiny magnets) tend to cancel each other out.

Having said so much about the frequency, let us consider why it should be chosen specifically. Why 50 to 60,000 cps: why not 15 to 20,000 cps, after all its a pretty good chap who can hear that kind of dog-whistle note?

The answer to this one is probably known to any owner of a stereo machine that has separate oscillators. In a word, "beating." When two frequencies are combined, their resultant is a group of frequencies which includes the sum and difference of the two we started with. If a frequency of, say 15,000 cps were used as bias, and a note of 10,000 cps recorded, one of the results would be an audible and unwanted note of the difference, 5,000 cps. The two fundamentals "beat" together to produce the resultant. A frequency of above 40,000 cps should be quite safe in this respect. In practice, the frequency is determined by other factors—which may well include what bits and pieces are available to the manufacturer—and is generally 50 to 70,000 cps. The upper limit is determined by heating losses, especially in the erase head, which uses a greater current.

\* \* \*

Another factor that is not always considered is the shape of the bias waveform. Attention is paid to frequency, and even more to amplitude, but it must be remembered that a distorted, or asymmetrical waveform is, in effect, a combination of a sine wave and a DC. Without going into the mathematics of this, or confounding the issue with more graphs, we can simply say that the effect of an asymmetrical waveform is likely to be an excess of hiss—as with DC bias. One way of reducing the possibility of asymmetrical bias waveform is to employ a push-pull oscillator, which is common practice in better-quality machines. In this way, some of the distortion inherent in oscillator systems is cancelled out—but more about that later.

\* \* \*

As we noted above, amplitude is important—and this goes for bias and for audio signal as well. Take another look at Fig. 1 and you will see that too great a bias would carry the audio signal beyond the straight portions of the transfer characteristic to where the curve begins to tail off, resulting in flattened peaks. Similarly, too little bias will give "bottom bend" distortion. There is a

quite definite critical value of bias for any machine.

A little thought will tell us that this value is the one that gives maximum recording level, and, in fact, it is possible to adjust the bias level on the tape recorder in steps to give a series of replay tones, returning the bias amplitude adjustment to that which gave the greatest output when played back. But, as Fig. 4, page 407 of the October issue demonstrated, the chosen value of bias amplitude is usually slightly beyond this point—over the hump of the curve, so to speak. Then why?

The answer lies in that old bogey, signal-to-noise ratio. At maximum recorded signal, there is generally also maximum hiss. By increasing the bias

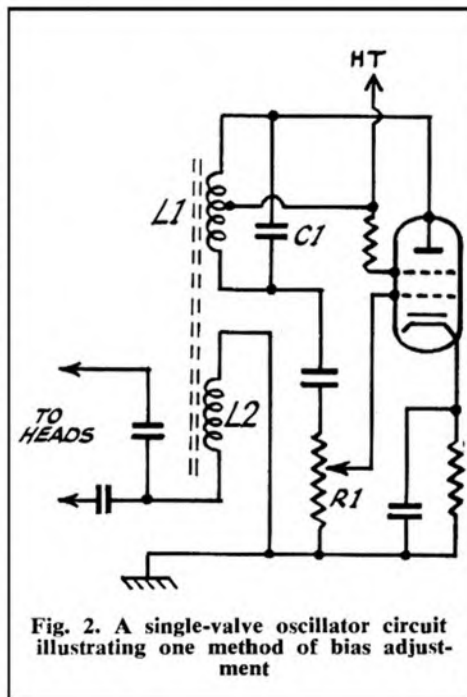


Fig. 2. A single-valve oscillator circuit illustrating one method of bias adjustment

slightly, a slight loss in output is noted, but a much greater reduction in noise. Although an increase in bias magnitude will give a better signal-to-noise ratio, another limiting factor has to be considered. This is the erasing effect of the bias field. At normal levels of bias and signal this erasing effect is unimportant, but as bias is increased the high frequency signals tend to get erased as soon as they are recorded. It is a fact that the higher frequencies are recorded more to the surface of the oxide layer than the lower frequencies, and are thus more easily affected by this "false erasure."

Which is one way a bit of high frequency boost is sometimes obtained—by under-biasing! If the amplifier is capable of adjustment to improve its high-frequency response, and one is recording on tapes that do not have too good a surface contact, an increase in bias amplitude can help considerably.

Mention of tapes brings up the thorny subject of what tapes are best—and the answer as usual is: "It all depends." The oxide coatings differ widely, not only in thickness, but in particle size, consistency, and various magnetic factors that I have no space to discuss—even if I knew enough about them. As we saw in Fig. 1, the transfer characteristic depends on the tape flux, which in turn depends on the physical propensities of the coating. Therefore, different tapes require different bias levels. And that is one reason why a manufacturer recommends a particular brand of tape to suit his machine. Not, as the cynical reader said, because he gets a rake-off!

\* \* \*

One way of getting over this is to provide a method of adjusting the bias amplitude, while leaving its frequency and waveform constant. On professional machines, this is normal, but few domestic tape recorders have an adjustment that can be made by the user. Many have no adjustment at all, and none provide a means of checking the alteration. The important thing to remember is that the position will be somewhere near that maximum we discussed a couple of paragraphs ago. And all that is needed to determine that particular point is a constant level input and plenty of patience. Of course, if an AC meter is available, the procedure is much simpler, or if one can use a DC meter of sufficiently high impedance across a resistor inserted in the head return lead.

The adjustment for bias amplitude may be a variable resistor or a variable capacitor. It is not, generally, the tuning slug of the oscillator coil, and no attempt should be made to alter this. Indeed, on one machine, the slug is glued into place by the maker and any force applied will result in the hair-thin wires being ripped from their moorings by the torque. And it is in the nature of things that the wires will always break about a thou' from the coil—never at the tail end.

\* \* \*

One example of adjustment is shown in Fig. 2, which is the circuit of one of the more robust single-valve oscillators. The circuit is a Hartley, built around a valve such as the 6V6, with the potentiometer R1 providing an adjustment of the grid drive. L1 is tuned by C1, neither being adjustable in this case, and the energy is applied to the recording head and to the erase head by L2, which is tightly coupled to the main winding.

The feed to each head is taken via coupling components which both act as buffers to isolate one from the other, and as regulators to give correct amplitude. In the next article, we shall take a look at alternative oscillators, and how to provide our own bias variation, and superimpose by removing the erase energy.

# The "living letter"—a key to friendship

WITH an estimated 2½ million tape recorder owners in Britain, there must be approximately seven million people who could, if they wished, correspond by means of "Tape Letters." In fact, a large number are exchanging tape letters, in Britain and the English-speaking countries.

A small percentage of these have learned another language and can therefore converse with people of another land. They chat with Karl, Hans, Oskar, Ivan, Petro or Leon, and know as much about him, his family, his job and his interests as they do about their friends who live nearby. Even so, they are limited to the country of the language they have learned, and not many people have the time, inclination or ability to learn more than one language.

I know what a tremendous advantage it is, to be able to converse with friends of another land, my wife and I spent one of the finest holidays we have ever had visiting our tape friends in Germany. I discovered the joy of seeing a country accompanied by a native of that land. We stayed with, or near, our various friends, and most important, we were "at home" with them. We knew each other well for we had talked to each other for several years before meeting, and we were "old friends."

It is indeed a shame and a pity that so few ordinary people of different lands meet, talk and be "at home" to each other, as we were.

Even so, I wished that I had been able to learn all the languages of the world. I had spent four years at evening classes and several years talking on tape to friends to improve my German speech, but I still had difficulty sometimes in making myself properly understood.

It was then that I was introduced to the International language, Esperanto. Suddenly the impossible became possible. After ten months I learned more of the Esperanto language than I had learned after ten years of German. I can now communicate with over eighty countries, have tape friends in eight different countries, and receive letters from another five countries.

Tape correspondence and a knowledge of the Esperanto language make a formidable partnership, and could be a great aid in the struggle for better inter-country understanding. An Esperanto tape friend of mine in Russia describes a tape letter as a "living letter."

Corresponding by tape is gradually increasing in popularity. Two tape magazines recognise this fact and have regular "Tape Exchange" features. In Britain alone there are quite a few tape correspondence clubs with membership totals of several thousands. One can talk with other people who share a hobby or an interest for a few minutes or up to half an hour for approximately the same price as a letter.

How easy it is as well to send a letter to a blind friend, a sick friend or a lonely friend.

If you are learning a language, you can talk and listen to the people who speak it

naturally, replaying the difficult bits again and again.

For me the "living letter" is a key to friendship, knowledge and understanding.

G. STEPHENSON.

Horley, Surrey.

## Variations on a theme

HAS it occurred to Mr. Hone (*Letters, July issue*) that many people have no wish or inclination to concern themselves with creative recording, they use their machines purely as a source for high quality music. They use them to talk to people in many other parts of the world, to capture the sound of the family growing, and for many similar purposes.

I disagree also with Mr. Hone's statement that the magazines try to make enthusiasts run before they can walk. Magazines, in my experience, try to help and advise the novice, and they report equipment and developments as they occur. When new machines appear, they try to evaluate their possibilities and advantages in a candid and honest manner.

Nobody, to my knowledge, has been rushed yet through two- and four-tracks, mono and stereo, and umpteen speeds. These are all natural and normal variations on one main theme. That there is a strong case for each of these developments is borne out by recorder sales in each class. One simply has to sit back and read easily obtainable literature, and then discuss machines with a knowledgeable dealer. Said dealer will always advise sensibly it pays him to!—and the customer ends up with the best machine for his particular purpose.

Yes, video-recording is making an appearance—it *had* to. It does not, however, render every other type of recorder obsolete, nor could it hope to. Mr. Hone uses an eight-year-old Ferrograph; I use a fairly new Revox 736; yet video-recorders have not rendered them obsolete.

As far as the British Tape Recording Contest is concerned, far too many people are still convinced that it is 'fixed.' They feel even more sure of this, if they get the opportunity to hear a winning tape. As a sales manager in a recorder dealer's, I hear this from far too many customers.

I disagree also that "the majority of recorder dealers and shops are only concerned with selling the recorders." We are very concerned with selling machines; it happens to be our job, actually. Any good dealer, however, is always quick and ready to point out ways and means of improving the quality and facilities of any machine. Advising a customer on any technical point is always a good thing; never bad. Admittedly, if one goes to a large multiple store

one can seldom, if ever, obtain good technical and advisory services. The majority of serious tape enthusiasts, however, now go to a specialist store.

No Mr. Hone, you wish to create, so carry on. The magazines also do their share of advising and instructing creative workers, but there *must* be plenty of room left for the people that want to concentrate on ever-better quality or on stereo recording, or playing with umpteen speeds—or even video recording.

To each his own, friend.

D. R. WISEMAN.

Acton, London, W.3.

## Who make the best tape contacts . . .

I WONDERED, after reading Alan Edward Beeby's notes (*July issue*) about the Americans being extremely good tapers, just who are best at exchanging tape programmes.

My own choice would be the British, Americans, Germans, and the lads in Australia, though not necessarily in that order. Group them together between a couple of brackets, and class them as just about equal.

My record book contains a list of forty-seven friends with whom I tape in the above-mentioned countries. I have six tape contacts in Canada, and only two of them make really well recorded tapes.

I cannot establish why it should be so, but most of the tapes received from Canada are badly made. Speaking too close to the microphone, over or under modulated tapes, stopping the recorder and forgetting to re-adjust the gain control, and bad erasure of earlier programmes are some of the most common faults. Generally speaking, tapes from there are a feeble effort all round.

It would appear there is apathy among the Canadian recordists, who seem not to bother about the final result so long as the tape has been run through the machine. Few tapes I have received from the West have been well recorded. It seems that many of the enthusiasts in that great Dominion are just not with it. What a pity!

A. C. CLEEVE SCULTHORPE.

Coleshill, Staffordshire.

## . . . and who is the oldest?

WE read in your "Tape Trends" (*July issue*) of the *youngest* enthusiast featured in the Tape Exchange section. It would be interesting to hear of the *oldest*.

Personally, I am only 71 years young (and probably far from the oldest) but I have found a tape recorder of great interest in my retirement, and can recommend it to others who have reached the same state. I might add that I have recently acquired a second recorder which has added greatly to my enjoyment and at the same time, that of my tape contacts who can now receive from me tapes "illustrated" with extracts from my other recordings.

Yes, it is a fine hobby for the retired, especially if one is, for health reasons, often tied to the house and unable to travel far from home.

W. E. HEASSELL.

Bristol, Gloucestershire.



# Dramatape

## Miscellany

By PERSPECTIVE

**G**ET to know your gain-control. It's the only way of ensuring good recordings. Too many of us simply *don't bother* to attain proper modulation.

For instance, I've just been listening to eleven dramatapes. Leaving aside the merely naughty deficiencies, such as scruffy tape-boxes and shrivelled leaders, all the tapes but one exhibited the same major fault. The gain-setting was far too high.

In consequence, there was little or no perspective "depth" to the recordings; indoor reverberation was excessive; and background, especially those recorded on location, were almost level with the dialogue. Thus the very elements of drama-in-sound (which should have been exploited) were utterly destroyed.

Well . . . the day may come when the amateur drama festivals allocate a separate class to drama-on-tape. How would these eleven tapes fare if entered therein? All would automatically be disqualified by the adjudicator's steward—on the grounds of poor technical presentation. But here's food for thought: almost all the tapes were produced by owners of high-quality equipment. The collective price was £1,260. (The best effort—from the point of view of modulation—was made on a 26-guinea machine.)

It would seem that success-on-tape doesn't depend on a fat cheque-book. Initially, we have only to learn how to handle the gain-control. And the best way of doing so is to devote an hour or so to *careful and systematic experiments with gain-control settings*.

If necessary, fit a large knob and mark out your own calibrations on the deck of the recorder. Next, draw up an audition-chart and analyse all your results. For example, test various voice-positions—distances away from the microphone—against each separate number on your control knob. Measure these distances in backward-strides—there's no need for a tape-measure. Find out (for example) how far the control must be advanced to "raise" a "very distant" voice. And at what point does the setting incur reverberation?

All this will teach you the "feel" of the gain-control for your particular studio.

You will agree (I hope) that it is useless to make recordings with the gain-control turned habitually to maximum. Yet this is the common mistake we seem to make indoors—generally because the actors are positioned *too far away* from the microphone. Apart from the loss of perspective and the increase in reverberation, a high gain-control setting also brings in *extraneous noise*. On some tapes, I could even hear the trundling of tape-spools and the click of record-changers! A high-gain setting, then, is *not* necessarily associated with audibility.

### GOING OUTSIDE

The gain-control technique, so vital in the studio, applies out-of-doors in exactly the same way. It teaches you to handle the recording of sound-effects.

For example, I have to go out to find a background for a rustic love-scene. The dialogue is supposed to take place on a stile—from which the swain will topple in confusion. There must be the occasional mooing of a cow (*fairly near*); constant birdsong (*overhead*); and, eventually, the golden chimes of the village clock (*very distant*). These three sounds must be neatly "balanced"—it's no use my recording them from a distant-position at high-gain.

So I shall record the moo very close to the cow-shed door—and rely on the *low* gain-setting to relegate the rather sharp birdsong. I am using a cow-shed (a) because I want the moo to sound comically "boomy" and (b) because the shed is under the trees and (c) because it ensures an immobile cow.

Thus the moo and the birdsong are "balanced." But I shall be nowhere near

the church at the same time. So I shall "mix-in" the isolated chimes at home. I recorded these chimes, last February, on the tower itself—i.e., quite close to the sound. But, in mixing, a low-level setting will give them an impression of "distance."

Next winter, our trainee-producer will "mix in" this final background-tape from a second tape recorder when the group performs the dialogue in the studio. She could, at the same time, "mix in" the chimes and the moo—as an alternative to having them pre-mixed; but, since they aren't dependent on a cue, she wants them pre-mixed. This simplifies her procedure at the recording-table. But she must still "balance" the dialogue against the pre-recorded background; and she will determine this by arranging her actors closely round the microphone—and by making preliminary tests with the gain-controls.

\* \* \*

### GOING PROFESSIONAL?

I was interested to receive details of A. D. Marsh's recording service. Mr. Marsh specialises in the cutting of discs, both for amateurs and professionals; and latterly, at great expense, he has equipped a recording studio with £100 microphones, £800 recorders—plus multi-channel mixers and echo units. Address: 52, Hest Bank Lane, Lancaster.

Now, some people say that amateurs should not use the services of professionals; but I submit that this view is foolish. All amateurs must obviously possess basic equipment—if only for rehearsal and replay. But, for high-fidelity drama-on-tape, a professional studio is a most valuable service. We can't all afford £800 recorders; nor can we always provide an adequate studio.

And the charges for a professional studio? Absurdly cheap! Mr. Marsh, for example, quotes £3 per hour for certain evenings. You only need a moment's reflection to appreciate the amazing value he offers. Compare it with the cost of hiring a film studio! Compare it, even, with the cost of mounting an amateur stage-show at your parish hall! Even the simplest stage production, these days, costs between £30-£60 for two performances. But you can make a professional dramatape (which is permanent) for a few shillings per member.

Work it out for yourself?

## Two-minute tape sketch by David Haines

A monthly exercise in perspective, acoustics and sound-effects

### ASK A POLICEMAN

**R**ECORD high-street traffic and (later) superimpose this extract over it. Try to balance the two levels. (See above.)

PASSER-BY: Constable! Constable!

CONSTABLE: Yes, Sir?

PASSER-BY: Can you tell me the right time?

CONSTABLE: No, Sir.

PASSER-BY: Why not?

CONSTABLE: Because I haven't got a watch.

PASSER-BY: But I understood that every policeman has a watch!

CONSTABLE: Not me, Sir. I'm too tired to wind it up in the mornings—and so would you if you had to tramp round and round this yer metropolis. If it wasn't for the money, I'd pack this job in.

PASSER-BY: But what can I do? I've got to know the time!

CONSTABLE: Do as I do—ask a policeman.



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# TEST

# BENCH

## COSSOR CR 1607

By John Borwick

**T**HE Cossor CR1607 is the lowest priced full stereo recorder that I have come across. Included in the price of 57 guineas is a clever stereo microphone, and there are two built-in loudspeakers—though for really impressive stereophonic playback, one or more external loudspeakers should be available.

Producing a stereo machine like this is not such a big step as one might think, bearing in mind that all the conventional four-track machines are already equipped with twin erase and record/play heads. So the Cossor CR1607 has the standard head assembly, plus *twin* record and replay amplifiers. Though these extra amplifier stages obviously cost money, this recorder is fully transistorised (thirteen transistors and two diodes) so very little extra space was required. My guess is that, except for dabbling in experimental stereo "live" recordings and maybe dubbing from stereo broadcasts or discs (copyright regulations having been observed) owners of this machine will frequently just use it as a mono recorder. Well, that is all right, since the usual track change facilities are included and the popular "multiplay" facility whereby a recording on, say, Track 1 can be re-recorded on to Track 3 while a new recording is being added to it.

### DECK LAYOUT

Centrally behind the (5½ inch maximum) spools is a four-digit position counter, with re-setting wheel, and in front is the head cover with removable top-plate and easy-to-thread, straight slot. Arranged round this are the two main selector switches and four control knobs. At the left is the channel selector with positions for Tracks 2-3, 1-4, stereo and PA or "straight-through amplifier" working. Above this are the Multi-



play and Record Safety buttons and alongside is the lockable Pause slide-lever.

The four control knobs are for Recording Gain, Playback Volume, Balance and Tone (the last two operating on playback only) and near them is the meter-type level indicator. Finally, on the right is the start, stop, fast wind and rewind selector and push-buttons for the two speeds, 3½ and 1½ ips. Other features include a foil-operated auto-stop, larger than usual storage compartment and dual inputs for microphone, pick-up and radio (diode).

Intrigued by the stereo price break-through which this recorder represents, I began by making stereo recordings, walking round the room and then getting other people to gather round and chat. On playback, everyone agreed that stereo added something to the fun of recording—and of course it helps to single out individual voices, as our ears do

in the "cocktail party effect" when people are all talking at once.

Stereo reproduction through the built-in loudspeakers is very limited, of course, since a spacing of six to ten feet is desirable. Indeed, presumably to save cabinet space, the Cossor CR1607 speakers are not mounted on opposite sides of the cabinet, but one on the left-hand side and one at the front. So careful angling of the machine, and perhaps arranging for the sound to be beamed outwards by reflection from walls, is necessary to give an acceptable stereo sound stage.

Replacing one or both of the built-in loudspeakers by external speakers of course gave better separation.

The microphone supplied is a twin moving cardioid type, which, unless I am mistaken, is related to the AKG type D77A. The two halves may be independently rotated to alter the frontal area being covered, and rows of dots indicate the degree of departure from the standard 90 degrees relative angle. Sound quality was very good, and the decent front to back ratio of about 12 dB assisted in producing good stereo separation in living-room conditions. Ganged volume control is used during recording, of course, but any variations in channel volume can be ironed out by adjusting the Balance control during playback.

Multiplay recordings, to combine old and new recordings, were found easy to engineer. Headphone monitoring during this operation helpfully permits both the old and new material to be heard—so adding a voice part in synchronism is relatively simple.

The record/playback frequency response, as shown by the accompanying graph, is good at 3½ ips with the expected loss of high frequencies at 1½ ips. The tone control is a top cut device and introduces up to 22 dB attenuation at 10,000 cps. Wow and flutter are not troublesome at 3½ ips and just apparent on music at 1½ ips.

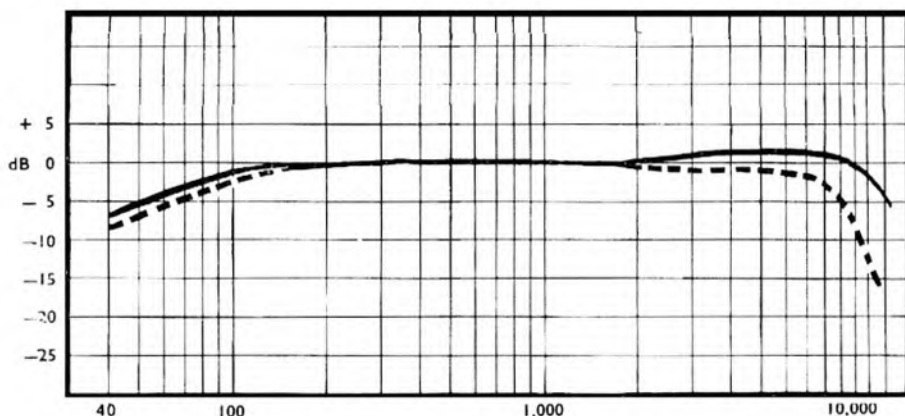
Fast wind and rewind of the 1,200 ft. spool of long-play tape supplied took about 3¼ minutes. Background noise and hum are commendably low, no doubt assisted by the wrap-round mu-metal shield on the record/replay head pressure pad arm and the additional pad which bears on the first guide post and clears the tape of dust before it reaches the heads.

But versatility at a reasonably low price is this machine's most obvious strong suit, and merits it the consideration of users who want to take up stereo recording for a low outlay.

### MANUFACTURER'S SPECIFICATION

- Tape Speed: 3½ and 1½ ips.
- No. of Tracks: four.
- Maximum spool size: 5½ inches.
- Magnetic Heads: Standard quarter-track giving mono, stereo or simultaneous two-track recording and playback.
- Power Supply: 110-250 Volts AC, 50 cps.
- Power Output: Two x 1.5 Watts.
- Frequency Response: 80-10,000 cps ± 3 dB at 1½ ips; 80-13,000 ± 3 dB at 3½ ips.
- Inputs: Microphones two at 1,000 Ohms, 1 mV; gramophone two at 0.5 Megohms, 150 mV; radio two at 0.02 Megohms, 2.5 mV.
- Dimensions: 17 x 13½ x 7 inches.
- Weight: 20 lb.
- Price: £59 17s. including recording lead, microphone and tape.

**Manufacturers: Philips Electrical Limited, Century House, Shaftesbury Avenue, London, W.C.2.**



Record/replay frequency response of the Cossor CR1607 tape recorder, at 3½ ips ——— and 1½ ips - - - -

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Wedge**

**THE UNFORGETTABLE NAT KING  
COLE.** Nat Cole with various groups  
and orchestras; commentary by Alan  
Dell. Capitol (TA-W-20664), 3½ ips,  
mono, 38s.

What a superb album to be welcomed  
back by! This lengthy tape, released soon  
after the disc LP, is a magnificent souvenir  
of Cole's career.

The record is based on Alan Dell's  
"Tribute to Nat King Cole" broadcast in  
the Light Programme on February 21, six  
days after the American singer's premature  
death.

In itself, this "record" of a broadcast of  
records makes history, although the radio  
programme used the discs whereas this  
album utilised the master tapes.

They review Cole's career using his 1963  
re-recordings of his best-known hits. By  
then his voice had become more mannered  
and honey-smooth than when it all began  
with "Straighten Up And Fly Right" in  
1943.

That was with his King Cole Trio, a pace-  
setting jazz group, and his subsequent path  
of greatness is traced with such accompanists  
as Stan Kenton, George Shearing, Gordon  
Jenkins, Les Baxter and the never-to-be-  
forgotten teaming with Nelson Riddle.

Even the near-corn of last year's *With  
A Little Bit Of Luck* and *You're My Every-  
thing* are included. But with such gems as  
*Mona Lisa*, *Ballerina*, *Let There Be Love*  
and *Too Young* on offer short lapses can  
be excused. They complete the story, any-  
way.

Though attention should rightly be con-  
centrated on Cole's singing, tribute must be  
paid to the equally immaculate commentary  
by Alan Dell, who was responsible for the  
original compilation in this form. His  
smooth linking of the extracts from the  
seventeen tracks is masterly.

**HIDE AND SEEKERS.** The Seekers with  
Bobby Richards and Orchestra. WRC  
(TTP 443), 3½ ips, mono, 29s.

The Seekers have had two chart-topping  
single discs, "I'll Never Find Another You"  
and "A World Of Our Own" behind them  
since they made this album for World  
Record Club soon after arriving in this  
country a little more than a year ago from  
their native Australia.

They're a top-class group in the field of  
non-ethnic folk music. "Ours is for the  
whole world to enjoy," says Seeker Athol

Guy. They've succeeded and one suspects  
that the current folk boom is more attribut-  
able to them than to Donovan and Dylan  
put together.

Even so they draw on Bob Dylan's  
material, including the new folk anthem,  
*Blowin' In The Wind*. Judy Durham, the  
only girl in the group, is usually the driving  
force and she's particularly effective with  
the gospel-flavoured *We're Moving On*.

Most of the tracks are well-known, if  
not well-worn. Being non-ethnic, I liked it.

**DEL SHANNON SINGS HANK WIL-  
LIAMS.** Del Shannon. *Seaside* (TA-  
SL 10130), 3½ ips, mono, 35s.

Every American pop singer who really  
makes it invades the c-and-w market. Del  
Shannon's album is a personal interpreta-  
tion of the songs of Hank Williams.

In this Shannon is not alone. More  
artists seem to have recorded "tributes" to  
Williams than Williams made records him-  
self! Hank was the leader in the country  
field at the time of his death in 1952. In  
his five-year career he was responsible for  
introducing country music to the world at  
large.

Among Williams' big hits were *Cold Cold  
Heart*, *Hey Good Lookin'*, *Your Cheatin'  
Heart*, *Kaw-liga* and *Honky Tonk Blues*.

Shannon includes them all, and seven  
others, gets pretty close to the authentic  
country whine and can be pretty pleased  
with the result.

**ANIMAL TRACKS.** The Animals. Colum-  
bia (TA-33SX 1708), 3½ ips, mono, 35s.

Of all the British groups to reach the top,  
the Animals are among the most dedicated.  
On this album they give it what can only  
be described as a specialised performance.  
Yet it will reach many non-dedicated ears  
purely because of the group's own popu-  
larity.

They dig deep into the soul of r-and-b  
music, led by their restrained singer Eric  
Burdon.

He provides the highlight in fact, with  
his tremendously sad blues *For Miss  
Caulker*, which he wrote. It contrasts well  
with the excitement of *Roadrunner* and  
*Roberta* and the swing they get in *Let the  
Good Times Roll*.

**TEN AGAIN.** Belle Gonzales, Russ  
Loader, the Ladybirds with Musical  
Direction by Mark Wirtz. WRC  
(TT 452), 3½ ips, mono, 29s.

*It's Not Unusual*, the Tom Jones' hit, in-  
troduces this very unusual collection of hit  
tunes. Unlike most packages of recent hits,  
this one's arrangements are as far as  
possible from the originals.

Belle Gonzales, in particular, has a  
straight voice that would hardly give her  
a chance against such luminaries as Sandie  
Shaw, Florence Ballard and Cilla Black.  
It lends itself to *Don't Let the Sun Catch  
you Crying*, but her gentle *Mack the Knife*  
is out of place.

Russ Loader is more of the '65 idiom,  
although his songs—*Memories are Made of  
This*, *Smile* and *Mona Lisa*, for instance,  
are from earlier years.

But if the idea was to collect the hits of  
the past fifteen years or so, surely the  
Beatles deserve a place.

**WIDE BEAT.** Monty Sunshine and His  
Orchestra. WRC (TT 450), 3½ ips, mono,  
29s.

Monty Sunshine was the clarinet player  
with the Chris Barber Band when it  
all happened for them with *Petite Fleur*.  
He left subsequently and became a band  
leader himself. Here, though billed as  
"orchestra," he is with a trad band.



On this album they include hits of others from the trad boom—Acker Bilk's *Taste of Honey* and *Stranger on the Shore* and Kenny Ball's *Midnight in Moscow*, as well as digging out some trad band numbers such as *Sweet Georgia Brown* and *Little White Lies*.

The performances sometimes lack lustre. Standouts for Sunshine's own clarinet and the girl singer—unfortunately unnamed—who adds sweetness to *Honey*.

**BLUE GENE.** Gene Pitney. Stateside (TA-SL 10119), 3½ ips, mono, 35s.

Despite his success in the pop market, helped by his swoonable appearance, it is difficult to visualise Gene Pitney as a teen-age idol.

He seems at that unfortunate stage when, if the wind blows in his direction, he could become enormously successful and even duplicate the career of Frank Sinatra.

Pitney in his early twenties is really learning his trade, just as Sinatra did. Perhaps like him Pitney will emerge at twenty-eight or so. His cause would be helped by an injection of more feeling and humanity into his singing. It's not enough to be dramatic.

His present brilliance is particularly noticeable with his hit *Twenty-Four Hours from Tulsa* and some of the other songs on this album, in particular the title number *Keep Telling Yourself* and the swing era hit of *Maybe You'll be There*.

He has a most imaginative fast Latin rhythm accompaniment behind *Autumn Leaves*, which I am sure Sinatra would have been proud to have.

Gene even includes *I'll be Seeing You* in the album. Now who introduced that song in 1945?

## Two jazz 'greats' team up for this album

JAZZ



By Mike  
J. Gale

**ME AND BUCK.** Personnel: Humphrey Lyttelton and Buck Clayton, tpts; Danny Moss, ten; Joe Temperley, bar; Ian Armitt, pno; Pete Blannin, sbs and Eddie Taylor, dms. W.R.C. (TT 324) 3½ ips, mono, 29s.

The great Basie trumpeter Buck Clayton's first association with Humphrey Lyttelton was in the 1959 Essen Jazz Festival where he performed a guest appearance with the band but this album is the result of two further meetings. The first was four years later at the Manchester International Jazz Festival followed a month later by engagements in Switzerland which already directly led to this privately arranged session at Interlaken.

Lyttelton says about these engagements: "Rehearsal time was short and the problem was to present something that could be thrown together quickly and which still sounded well rehearsed and relaxed. For this reason we used arrangements which the bands played regularly . . . and simply incorporated Buck into them. It sounds

simple enough. And it was simple in practice but only because Buck is a musician of rare experience and understanding."

Clayton's incorporation is remarkably successful with the open and muted trumpet being heard to advantage on *Humph and Me*, a Clayton original written during the session, and with impromptu solos on *Stardust* and *Autumn Leaves*.

"Me and Buck" is a good vehicle for Lyttelton and Clayton who progress in combination and individually before riffling out together.

European jazzmen do not always blend as well with American musicians and although this album is by no means a classic, it is still a noteworthy collection which adds to Lyttelton's growing international reputation.

*Tam, Fondou Head, Sentimental Journey* and *Cotton Tail* complete the set.

**ONLY THE BLUES.** Sonny Stitt. Personnel: Sonny Stitt, lato; Roy Eldridge, tpt.; Oscar Peterson, pno.; Herb Ellis, gtr.; Ray Brown, bass; and Stan Levey, dms. WRC (TT 410), 3½ ips, mono, 29s.

Sonny (Edward) Stitt, born in Boston, USA, in 1924, achieved some sort of recognition by his mid-twenties after playing with, among others, Dizzy Gillespie. By the late fifties he was involved with Norman Granz' "Jazz at the Philharmonic" project.

Stitt has been the subject of some controversy and at times, some savage criticism including the famous "Downbeat" comment "Does anyone actually buy Sonny Stitt LPs?" Some jazz critics, myself included, feel that he could be far more original and certainly not rely so much on his (and the) past.

Compensation on this album is the imposing team: Roy Eldridge, whose intense trumpet has blown for a good many years now with Oscar Peterson, ex-Basie giant whose one-time trio is also in the line up.

Four items, all Stitt compositions, give plenty of opportunity for Eldridge to dominate especially on *Cleveland Blues* while Stitt, enthusiasm unchecked, gives an intense if unobtrusive contribution which unhappily lacks Eldridge's dimension. Drummer Stan Levey (whose name is spelt with an "e" in the programme notes but is listed with an "e" in my American jazz dictionary) gives the type of performance which does not spark colourful adjectives but simply leaves the listener with a calm appreciation of a very talented musician.

Other items on this 1958 recording are *The String, BW Blues*, and *Blues for Bags*.

**OUR SHINING HOUR.** Sammy Davis and Count Basie. Arranged and conducted by Quincy Jones. Verve (TA-VLP 9085) 3½ ips, mono, 35s.

The long awaited project has not provided any disappointments with Davis turning in a wonderfully consistent standard of talent, pathos, humour, vitality and sensitivity in one of this year's best albums. Equal honours go to the great Basie band conducted by Quincy Jones who is also credited with the excellent arrangements.

All through the set each item seems to surpass the previous one: *Work Song*, an Aderley-Brown Jr. composition, is so very

(Continued on page 320)

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(Continued from page 319)

good with some superlative phrasing; *Why Try to Change Me Now* is harmonic perfection; *She's A Woman*, a highly successful single and so on with *Teach Me Tonight* and *The Girl From Ipanema* performed as only Davis can.

The other tunes are *My Shining Hour*, *Blues For Mr. Charlie*, *April in Paris*, *New York City Blues*, *Keepin' Out of Mischief*, *You're Nobody 'til Somebody Loves You* and *Bill Basie Come Home*. The last item, a Jones-Basie-Davis score, adds extra charm with Davis talking to Basie before leading into a non-vocal tap dance with Basie tinkling away in the background. I wouldn't know if Davis is sitting back using the sound effects department but if he is, the result, of course, is very professional.

**ELLA FITZGERALD SINGS THE JEROME SONGBOOK.** Arranged and conducted by Nelson Riddle. Verve (TA-VLP 9080) 3½ ips, mono, 35s.

Ella Fitzgerald's more recent regrettable tendency to loose melodic lines in an avalanche of vocal improvisations is checked on this album in favour of a tastefully arranged set of twelve songs which begin, at times, to make Nelson Riddle sound creatively spent in this Bacharach age. The orchestral tricks are there, but they have been heard so many times before whereas refreshing simplicity is the key to Ella Fitzgerald's performance.

*Let's Begin* is a medium tempo item with a typical Riddle backing equating well with the vocal while *A Fine Romance* and *All The Things You Are* both have sympathetic accompaniment with some excellent brass harmonies taking advantage of Riddle's best arrangements on the album.

Inigorating phrasing on *I'll Be Hard To Handle*, *You Couldn't Be Cuter* and *She Didn't Say Yes* is almost hampered by some pretentious backing.

The well worn *I'm Old Fashioned* remains well worn without much needed transfusion, but *Remind Me*, *The Way You Look Tonight*, *Yesterdays* and *Why Was I Born* are beautifully treated and *Can't Help Lovin' That Man* is Ella Fitzgerald at her best.

## CLASSICS Here's the



By Edward Greenfield

## Agony in jolly terms

**BEETHOVEN.** Oratorio—*Christ on the Mount of Olives*, Opus 85. Jan Peerce, Maria Stader, Otto Wiener, Vienna Academy Chorus, Vienna State Opera Orchestra conducted by Hermann Scherchen. WRC (TT 406), 3½ ips, mono, 29s.

Beethoven's oratorio written on the theme of the Agony in the Garden has long been condemned (and in consequence neglected), because of its melodramatic qualities. It is true that Beethoven's use of a conventional operatic idiom is out of keeping with the seriousness of the subject, but what a performance like this demon-

strates very clearly is that the music is interesting none the less.

Beethoven in his early thirties may not always have written masterpieces, but the alertness of his mind refused to be hidden. Nowadays we have outlived the straight-laced ideas on religious settings handed on by the Victorians (the jolly settings of the Mass by both Mozart and Haydn are excellent instances of music that has come back to favour) and most listeners will not object unduly to having the tenor as Christ express the ultimate in human torment in rather jolly terms. The music does not go very far in other words, but anyone who knows Beethoven's great opera "Fidelio" will realise the close kinship in the music here, and the outer movements at least—a grave slow orchestral introduction in the rare and intense key of E flat minor and a strong fugal finale for the chorus *Glorious worlds above us spire*—are most moving.

The part of the Seraph is given to a bright coloratura soprano—another incongruity by modern standards—but Maria Stader sings the lilting light-hearted melodies most sweetly, and you would have to be very severe to take offence on religious grounds. The other soloists too, particularly the American tenor, Jan Peerce, are very strong and clear, and Scherchen's conducting is both warm and dramatic. The recording made in the Mozart Hall, Vienna, in September, 1962, is attractively bright and atmospheric. The notes included in the box include a full text both in German (the language of the performance) and in English translation.

**HAYDN.** Symphonies Nos. 93 and 94 "The Surprise." Vienna State Opera Orchestra conducted by Hermann Scherchen. WRC (TT 407), 3½ ips, mono, 29s.

It is one of the unfairest things in music that some of the most exhilarating symphonies Haydn ever wrote are far less well known than they should be simply for lack of a name. No one could complain that the "Surprise" symphony with its famous fortissimo chord in the slow movement (designed to waken the sleeping audience) is neglected. But No. 93, its close companion, is not nearly so widely known, and on purely musical grounds there is no justice in that at all. Both these works are masterpieces, delightful in every bar.

They both belong to the set of twelve symphonies that Haydn wrote for the impresario, Salomon, to be performed at his concerts in London. Haydn in his old age after he had freed himself from the ties of being court musician to Prince Esterhazy on his Hungarian estate, was invited to London, and there seems to have enjoyed himself enormously. These late symphonies are slightly longer than the earlier ones, but after the grandiose introductions the humour and sparkle of the music is infectious.

Scherchen has the reputation of being a hard driver among conductors, but he has an excellent touch in these two symphonies, for the fast outer movements have genuine gaiety and the slow movements are beautifully phrased with no excessive mannerism. The Vienna State Opera Orchestra is not always terribly polished in its playing, but the briskness and warmth are most attractive. The recording (made originally by Westminster) is good, but on the review copy there is a bad dubbing fault in the slow movement of No. 93, as though the tape has temporarily been caught up. The World Record standard of dubbing is generally very good indeed, and I hope this will not be a recurrent fault.



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# GRUNDIG ANNOUNCE THEIR LATEST MODEL

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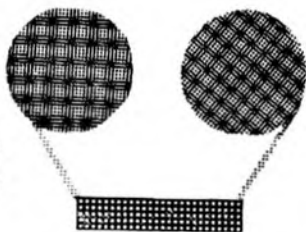
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The M203 (illustrated July issue) retails at 79 guineas. Among the features are included facilities for switched track-to-track transcription with built-in mixing controls, multiplay recording, parallel track playback, VU meter recording level indicators, pause control, safety erase lock, three figure digital rev. counter, a tone control, and push-button controls.

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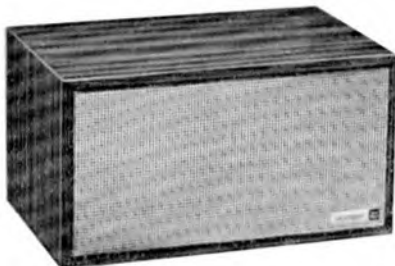
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29. **Tape Recording and Hi-Fi** by Douglas Brown (1961). 160 pages. **5s.**  
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39. **Tape Recorder Manual** by Wallace Sharps. (New cheap edition). **10s. 6d.**  
*Sections on its uses in business, education and pleasure, how it works, etc.*
2. **Alternating Current and Acoustics.** Edited by Edgar J. Black (1964). 116 pages, 86 illustrations. **10s. 6d.**  
*Deals in simple terms with the origin and generation of alternating current, construction of coils and capacitors. The second part deals with the nature of acoustics and construction and operation of devices used for sound recording and reproduction.*
21. **Practical Hi-Fi Handbook** by Gordon J. King. 224 pages. **25s.**  
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22. **Practical Stereophony** by H. Burrell Hadden (1964). 159 pages. **37s. 6d.**  
*The author, an instructor at the BBC, has been actively engaged for many years in research in this field, as a result the book is mainly directed towards those who make this art their profession, but there is much for the amateur enthusiast.*
35. **Tape Recording Yearbook 1965.** **7s. 6d.**  
*The 1965 edition contains all the well-known facts and figures of earlier editions, revised to date, as well as important contents vital to all interested in this field. Compiled by the staff of "TAPE Recording Magazine" this Yearbook is a must.*

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## BIRMINGHAM

The recent opening of Scotland's first full-size motor-racing circuit gave members of the tape section of the Radio Club of Scotland an ideal session for some location recording. Equipped with battery-operated recorders, members recorded the official opening ceremony, and afterwards captured some of the sounds of the racing cars.

Back within the club walls, mystery shrouds the production of a play written by member John Wilson. To "maintain interest," the producer is allowing members of the cast to see only their own lines, ensuring that until the play is finally recorded no one knows the full subject.

Inter-club contacts are being maintained by the Scottish members. Arrangements are being made for another get-together with the Dundee society, this time with the clubs arranging to meet half-way between their respective towns. Meanwhile, chairman John Wood has been in contact with the Rugby club in an effort to establish a regular exchange of views and tape material.

Among other recent activities have been a portables night, at which a number of battery machines were shown and demonstrated, a soldering demonstration presented by John Knowles and Gordon Calder, an explanation and description of the DIN plug and socket system, and comparisons between disc and tape records. The club's first 8mm newsreel, complete with sound-track was recently screened by John Knowles.

Latest news is that the members have managed to obtain their first lady member. The wife of one of the members, their latest recruit is expected to increase the female intake. Advice is sought from other clubs on the best way of attracting the ladies to club meetings.

Finally, an offer from the club. Final tapes are almost completed of the club's recording aboard the "Maid of the Loch" a pleasure cruise paddle steamer plying on beautiful Loch Lomond. British Rail have co-operated with the club members who have interviewed Captain and crew and recorded the various sounds of a typical cruise. Any tape club or individual requiring copies of the tape for use in social service programmes are invited to contact the secretary.

Secretary: J. A. Douglas, 113 Novar Drive, Glasgow, W.2, Scotland.

## BRIGHTON

Representatives of the Federation of British Tape Recording Clubs were invited to judge the entries in the most recent of the Brighton tape club's internal competitions. Ralph Vivian was finally awarded most points for his recorded talk on the history of musical boxes. He was awarded a Cup, and four-inch reel of tape. The success of this particular contest has led to the organisation of a similar competition, the closing date for which will be November 30.

For the two earlier meetings, members had been concentrating on the design and operation of radio tuners. Louis Goldberg rigged up a temporary aerial for the first meeting which featured various FM units brought along by members. At the following meeting, Brian Harris demonstrated his Quad tuner coupled with a Quad stereo

pre-amplifier and two mono power amplifiers.

Secretary: Keith Upton, 47 Kingsley Road, Brighton, Sussex.

## LONDON

Pat and Jean Stavenhagen retained the McManus Cup in the London tape club's annual competition. They were awarded most points for their combined tape, a documentary feature on Surbiton. Marian Tourell also retained the Novice Cup, awarded in the same contest, for her imaginative story tape. Third prize went to Bob Trotman, for another documentary, this time on Carshalton.

BBC producer Richard Keen adjudicated and provided an entirely different judgment from the members.

Their following meeting, held on July 8, saw members making practical use of Mr. Keen's earlier advice and guidance on editing. This was to be followed on August 12 by their welcoming lone tape enthusiast Mr. Conn Ryan who recently completed a documentary feature tape on the Channel Islands. Member Ron Tucker met Mr. Ryan while he was preparing his tape, and invited him along to the club to talk of his hobby.

Secretary: Douglas J. Morris, 80, Tangier Road, Richmond, Surrey.

## MIDDLETON

Moves to establish a North-West Association of Tape Recording Clubs are being made by members of the Middleton tape society. A tape has been circulated giving details of the proposed formation, and asking for suggestions from the clubs within the area defined. Secretaries wishing to receive this tape are invited to contact the secretary direct.

The Association will not be restricted to clubs. Individual tape enthusiasts are also invited to apply for details of associate membership.

The secretary of the club is also interested in receiving a ten-minute contribution on some aspect of sound reproduction for the club's sound magazine.

Secretary: G. E. West, 187 Oldham Road, Middleton, Lancashire.

## OVERSEAS STUDENTS

An "Any Questions" session was arranged for the May 31 meeting of the Overseas Students' Tape Recording Group. Sitting on the panel were John Borwick, George Pontzen of Lustraphone Ltd., Mr. L. W. Saunders of E.M.I., Ken Smith of Truvox Ltd., and Mr. P. Orr of the British Council.

The audience included representatives of 25 different nationalities, and questions ranged from "What is four-track tape?" to "What effect does atomic radiation have on tape?"

At a later evening, members enjoyed a practical session devoted to sound mixing. Four different sound sources, turntable, chairman, panel and audience, were used to achieve a "Juke Box Jury" effect, but it was felt that David Jacobs is in no danger of losing his job. Afterwards, Trinidadian Rawle Jeffrey entertained the members with a tape/slide show entitled "Carnival in Trinidad."

More location recording ventures have been attempted. To date, the club has visited Petticoat Lane Sunday morning market, Speakers' Corner, and recorded the Trooping of the Colour ceremony. Members have also recorded an interview with a policewoman and a sergeant in the Grenadier Guards.

Secretary: Derek Chatterton, The British Council, 11 Portland Place, London, W.1.

## SOUTH DEVON

David Plett's recording of an RAF Station Passing Out parade was awarded most points in the fifth annual tape contest organised by the South Devon

tape society. For his entry, "Swindon '65," David won the club's Silver Spool trophy and a tape library box containing 2,400 ft. of DP tape presented by BASF Chemicals Ltd.

Arthur Knight's entry, "A song to remember," was second and he received 1,200 ft. of LP tape donated by Peter Wilks. Ten tapes were entered, and the final marks, awarded for technical quality, originality, continuity, and impact, brought all the tapes close together.

In an endeavour to encourage greater activity among club members, vice-president J. W. Stockman has donated a Cup to be awarded for some aspect of recording. At the recent AGM of the club details of the award were not finalised.

April 14 saw the occasion of the club's 100th meeting. The secretary, Gordon Furneaux, who has twice won the Silver Spool Trophy himself, was assisted by David Pletts and Mr. D. Davies when he presented highlights from the club's past activities in a combined mono and stereo programme entitled "100 Not Out." Included in the programme were original recordings by members, Chinese and electronic music, plus a few commercial tape records of popular and classical music.

Messrs D. & B. Davies Ltd., local dealers, loaned a Vortexion CBL tape recorder and Pamphonic loudspeakers for use at this meeting.

Secretary: Gordon Furneaux, 45, Kenwyn Road, Ellacombe, Torquay, Devon.

## WALTHAMSTOW

The production of a documentary feature concerning the regalia worn by the Mayor of Leyton was the purpose of a recent interview recorded by two blind members of the Walthamstow tape society. Mr. and Mrs. Don Cooper talked with the retiring Mayor about the history of his regalia which is to become a showpiece following the rearrangement of London's Borough boundaries. An edited version of the tape will be included in the club's news magazine as well as *Tape Link*, the society's magazine for the blind.

A further location recording was planned for the Walthamstow members, when delegates from Sarawak attended a reception at the Town Hall to mark the end of the Freedom from Hunger campaign.

Among the individual recording activities have been Les Bridges' 4½-hour session taping a Silver Wedding reception of Mr. and Mrs. Jackman of Wanstead. He used his recently-purchased Beomaster stereo recorder, and from the recordings made will edit a 45-minute programme which the couple plan to send to relatives in Australia.

Other recent events included a coloured slide show presented by Tony Norton; a demonstration of his Bang & Olufsen stereo recorder by Les Bridges, shown during a visit by members of the North London club, and a visit by the members of the newly-formed Harlow club. The Harlow members, planning a similar venture, were particularly interested to hear about the hosts' hospital request programme.

Secretary: Tony Norton, 22, Lechmere Avenue, Chigwell, Essex.

## WORLD ROUND ROBIN

Membership of the World Round Robin Club has risen to over one hundred. In his latest report secretary John Page announces a reduction in annual membership fee, which now stands at ten shillings.

The March edition of the club's *Sound Magazine* included a talk on tape recorder maintenance, given by President Matt Ewart, and a collection of Irish songs, recorded by Alastair Smyth.

Secretary: John Page, 45, Elgin Avenue, Belmont, Harrow, Middlesex.

## TAPE EXCHANGES

**T**APE recorder owners who wish to contact others with similar interests, to exchange news and views by tape are invited to fill in and return the form on page 324 giving their name, age, address, special hobby or interest for this free service.

Details given here also include speeds and spool size to be used, name of recorder, and special area to be contacted.

Cassidy, George (35). 76, Holden Street, Liverpool 8, Lancashire. Photography, reading, music. 7½, 3½, 1½ ips. Seven-inch spool. Robuk recorder. Germany, UK, USA.

Dutton, Kenneth (23). 9, Birchfield Lane, Oldbury, Worcestershire. Reading, pop music. 3½ ips. Seven-inch spool. Philips EL3548. Female contacts only in UK, USA.

Eccles, Raymond Neil (29). "Greenacres," Greenhill, Wootton Bassett, Swindon, Wiltshire. Photography, gliding. 7½, 3½, 1½ ips. Seven-inch spool. Truvox R104. Australia, New Zealand, South America, Spain.

Fawcett, James (50). "Lundy," Sand Road, Sand Bay, Weston-super-Mare, Somerset. Ships, short-wave radio. Grundig TK18.

Fells, Roy (30). 15, Brighton Road, Darlington, Co. Durham. Film sound tracks. 3½, 1½ ips. Seven-inch spool. Philips EL3548, four-track. Overseas only.

Forrest, N. J. (21). Flat 47, Hunters Hill, Burghfield Common, near Reading, Berkshire. Music. 7½, 3½, 1½ ips. Seven-inch spool. Truvox PD86, four-track stereo. Overseas only.

Gautrey, John C. (37). 6, Cannon Street, Wisbech, Cambridgeshire. 35mm photography, swimming, travel, theatre, dramatics, caravans, music. 7½, 3½, 1½ ips. Seven-inch spool. Philips EL3542, four-track. Male contacts only.

Harlan, Alan (?). 13a, Linden Road, Gosforth, Newcastle-on-Tyne 3, Northumberland. Military band, country and folk dance music. 7½, 3½ ips. Seven-inch spool. Philips recorder.

Hartley, Ronald (35). 8, Merridea Road, Macclesfield, Cheshire. Photography, historical places, scootering, TV. 7½, 3½, 1½ ips. Seven-inch spool. Philips recorder. UK and USA. Letters first please.

Hawkes, Christopher (21). 202, Widney Manor Road, Solihull, Warwickshire. 8mm photography, philately, pop music. 3½, 1½ ips. Five-inch spool. Philips and Aiwa battery-ported. Female contacts preferred in Canada and USA.

Hills, Dennis Frederick (39). 47, Granville Road, St. Albans, Hertfordshire. Photography, travel, light classical music. 3½ ips. 5½-inch spool. Grundig TK24. Female contacts preferred in UK, USA, Canada, Australia, New Zealand.

Hodgkins, Eric (36). 163, Radley Road, Abingdon, Berkshire. Travel, photography. 3½ ips. 5½-inch spool. Trixette Companion. Lebanon, Israel, Jordan, Japan only.

Hole, Tony (27). 18, Boswell Road, Rugby, Warwickshire. 8mm photography, hi-fi. 7½, 3½, 1½ ips. Seven-inch spool. Philips EL3549.

Ingram, Roy (32). 20, Rosslyn Crescent, Bentley, Doncaster, Yorkshire. Stereo recording, military bands, folk, c/w, jazz, and some classical music. 7½, 3½ ips. Seven-inch spool. Truvox PD86, Saba TK230-S, stereo, and Fi-Cord 202 battery-portable.

Johnson, Richard J. (23). 83, Abbey Road, Aylesbury, Buckinghamshire. Most pop music. 7½, 3½, 1½ ips. Seven-inch spool. Collaro Studio deck, own amplifier.

(Continued on page 324)

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## TAPE EXCHANGES

(Continued from page 323)

**Kent, Miss Judy** (21). 106, Templeton Avenue, Llanishen, Cardiff, Glamorgan. Reading, needlework, pop and light classical music. 7 1/2, 3 1/2 ips. 8 1/2-inch spool. Ferrograph 5A/N. USA, Canada, Australia, New Zealand.

## TEENAGE EXCHANGES

**Browden, Stephen R.** (18). 16, Roman Drive, Leeds 8, Yorkshire. Aircraft. 3 1/2, 1 1/2 ips. 5 1/2-inch spool. Telefunken 75. Same sex females in S.W. England, USA, France.

**Davies, David** (19). 45, Eastlands, Almondsbury, Huddersfield, Yorkshire. Films, Sinatra, music. 3 1/2, 1 1/2 ips. Seven-inch spool. Carousel recorder. Female contacts preferred in Paris, Rome, Yorkshire.

**Hawtin, Michael** (18). 106, Springfield Avenue, Banbury, Oxfordshire. Electronics, hi-fi, pop music. 7 1/2, 3 1/2, 1 1/2 ips. Seven-inch spool. Fidelity Major, Truvox R102. Female contacts in UK only.

**Kirk, Iain** (18). 29, Roundwood Park, Harpenden, Hertfordshire. Dancing, driving, music. 3 1/2, 1 1/2 ips. Seven-inch spool. Philips EL3548. Female contacts only in UK.

**Leventhal, Barry** (15). 150, Broadfields Avenue, Edgware, Middlesex. Photography, chess, music. 3 1/2, 1 1/2 ips. 5 1/2-inch spool. Ferguson, four-track. USA, Canada, Australia.

**Magill, David** (17). 18, Carlisle Street, Gainsborough, Lincolnshire. Shortwave radio, judo. 3 1/2 ips. Seven-inch spool. Bush TP50, four-track. Malaya, UK.

**Oakenfull, John** (16). 70, Zealand Road, Canterbury, Kent. Reading, pop music. 7 1/2, 3 1/2, 1 1/2 ips. Seven-inch spool. Grundig TK35. Female contacts in UK, USA.

**Tidy, Roger** (17). Marylands, Rowly Drive, Cranleigh, Surrey. Short-wave radio, geography, music.

## TAPE DUBBING

**J. & B. RECORDINGS.** Tape/disc. Mobile unit. Quality recording, 14, Willows Avenue, Morden, Surrey, Mitcham 9952.

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7 1/2, 3 1/2 ips. 8 1/2-inch spool. Ferrograph 5A. Middle East, Africa.

**Sackett, Richard** (15). 1, The Glen, Grands Vaux, St. Saviour, Jersey, Channel Islands. Photography, reading, pop music. 3 1/2 ips. Five-inch spool. Fidelity, four-track.

**Sales, David G.** (16). 10, Bristol Road, Canterbury, Kent. Electronics, pop music. 3 1/2 ips. 5 1/2-inch spool. Grundig TK14. Female contacts preferred in UK, USA.

**Morgan, John** (19). 1st Georges Mansions, New Brighton, Cheshire. Photography, radio. 15, 7 1/2, 3 1/2, 1 1/2 ips. 8 1/2-inch spool. Brenall Mk 5M. Letters first please.

## OVERSEAS READERS

**Carr, Lorraine J. Miss** (18). 39, St. Vincent's Street, Dorrington, Brisbane, Queensland, Australia. 8mm photography, travel, coin-collecting. 3 1/2, 1 1/2 ips. 5 1/2-inch spool. Ferguson 3202. UK, USA, New Zealand.

**Delpont, Wesley** (19). Box 410, Pietersburg, North Transvaal, South Africa. Electronics, travel, motor-cycling, cars. 7 1/2, 3 1/2, 1 1/2 ips. Five-inch spool. Uher 4000 Report-S.

**King, Robert** (19). Unit 22, 2H Chandos Street, Ashfield, Sydney, Australia. Photography, philately, pop music. 7 1/2, 3 1/2 ips. Seven-inch spool. National RS755S, four-track stereo. UK.

**van Koersveld, Jan** (28). c/o Mobil Oil, P.O. Box 1150, Port Elizabeth, South Africa. Music. 3 1/2 ips. 5 1/2-inch spool. Grundig TK27, two- and four-track stereo. Norway, Sweden, Germany, Italy.

**Nazareth, P. Max** (28). 14, Ekanek Buildings, Elphinstone Street, Karachi 3, Pakistan. Films, swimming, dancing, magazines, pop music. 7 1/2, 3 1/2, 1 1/2 ips. Seven-inch spool. Grundig TK46, stereo. UK, USA.

**Naus, Louis** (22). Tollebeckerweg 17, Tollebeek N.O.P., Holland. English education, photography, water sports, potting, folk song and classical music. 3 1/2 ips. 5 1/2-inch spool. Grundig TK19 Automatic. UK.

**Rankin, Gary William** (17). 9, Bramble Street, Woody Point, Queensland, Australia. Hi-fi, jazz and classical music. 3 1/2 ips. Seven-inch spool. Philips EL3541, four-track. UK, Africa.

## FAMILY EXCHANGES

**Hale, Mr. and Mrs.** (30). Nimbus, Leicester Road, Tilton-on-the-Hill, Leicestershire. 8mm cine photography, music. 15, 7 1/2, 3 1/2, 1 1/2, 15/16 ips. Seven-inch spool. Philips EL3300, Brenell, Wyndor Viscount. New Zealand.

Tape recorder owners wishing to make contact with others of similar interests are invited to complete and return this form. (BLOCK LETTERS PLEASE)

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