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The Restoration Of The Mellotron - Half'A Tron

Back In Black

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By Gordon Reid

This is the story of the fall and rise of a unique Mellotron with an equally unique history.

In 1965, Streeley Electronics built the prototype of a single-manual, cycling Mellotron contained in a half-width MkII case. They installed a new set of tapes that concentrated on a range of organ sounds rather than the flutes, violins, brass and choirs that would soon come to define the Mellotron sound, and even made it possible for the user to record new sounds onto the lowest five keys, which would have made it the world's first sampler. But what happened next illustrates the strange relationship that existed between Streeley (the manufacturer in Birmingham) and Mellotronics (the sales organisation in London). One of Mellotronics' directors, a chap by the name of George Clouston, visited the factory and ordered them to destroy the prototype so that no-one outside the factory would ever see it, hear it, or even learn of its existence. So the single-manual 'Tron was scrapped and, for the next two decades, a pedestal drill was bolted to the top of its forlorn and empty cabinet.

For 50 years, the idea lay dormant. Men walked on the moon. Governments rose and fell. The Berlin Wall came down. MacDonalds arrived in Beijing. Major economies boomed, busted, and boomed (and busted) again. Musical styles came, went, and (unfortunately) came back again. But the dream of a single-manual Mellotron MkII was never dreamed again. Until now.

The Birth Of The Half'A Tron

As I've noted before, it takes a nation of crackpot inventors to build a 350lb keyboard based upon 70 three-track, 3/8-inch-tape players, with a reverb unit, amplifiers, speakers, a back-breaking power supply, an aluminium frame capable of supporting the tape racks with all their attendant heads, guides, pinch-rollers and return springs, rhythm and accompaniment loops, and the motors, bicycle chain and flywheel necessary to make the whole contraption function. Yet it worked and, although its manufacturer viewed it as some sort of multi-instrumental organ, the pop and rock community took it to its heart. By 1967, everyone was experimenting with the Mellotron: the Beatles, the Rolling Stones, the Moody Blues, Traffic and the Move, soon to be followed by the likes of Pink Floyd, King Crimson, Genesis and Yes.

But this isn't yet another eulogy about the keyboard that — like it or not — defined the sound of the progressive rock era, it's the story of a specific instrument. To be precise, it's the story of the ninth Mellotron ever built. Manufactured in December 1963 as one of just 55 of the original 'MkI' instruments and despatched from the factory to Mellotronics in January 1964, it was retained as the company's demonstrator, upgraded to MkII specification in March 1965 and then (although the paper records no longer exist) it seems that it was bought by Brian Jones of the Rolling Stones. It's believed that each member of the Stones owned a MkI or MkII Mellotron at one time or another, and there are numerous photographs that support this. There's even a MkII under glass at the Rock & Roll Hall Of Fame in Cleveland, Ohio, with a plaque that claims that this was Brian Jones's instrument. However, its provenance is unproven, and it's more likely that this is one of the other instruments owned or used by the band during their brief 'oh my god, how can we possibly compete with Sgt Pepper?' era. To justify that statement, I'll let Robert Webb, the keyboard player in the 1970s prog-rock band England, take up the story.

"I first encountered #109 when it was owned by Mark Ibbotson, England's original drummer," explains Webb. "He told the band that he had bought it from Brian Jones's parents and, while this has never been proven, he had no reason to lie. We used it at two gigs at The Hazlett Theatre, Maidstone in 1975 and I can still hear it on some unreleased recordings from each of those gigs. Unfortunately, and for reasons best forgotten, Mark left the band in 1976 during a series of record company showcases. His departure was at best untimely, and it jeopardised the massive amount of work we had all put into it, but at least I was able to keep the Mellotron."

At this point, #109 was no different from the dozens of other MkIIs that had been played live on the prog-rock circuit. But whereas almost everyone else had replaced the unwieldy old behemoth for the lighter and more reliable Model 400 that had appeared in 1970, England had no money, so another solution had to be found.

By 1976, it had become normal for Webb to modify almost every instrument he owned, although his first attempts had, by his own admission, been less than entirely successful. Combining a WEM Westminster 15 combo and a Copicat in a single cabinet had worked after a fashion, but it had looked pretty awful. (Mind you, he was only 14 at the time.) Likewise, a protective shell for his Hammond L100 had also been less than beautiful and, when he removed it to sell the organ, he found that the rivets had badly scratched the organ's case. But he pressed on undeterred and, when he studied how his next organ, a 'split' Hammond M102, had been divided in two, he decided that he was able to undertake the work himself. It proved to be a watershed moment because, soon afterward, all manner of keyboards were quaking at the sight of his sharpened tools.

Webb picks up the story again. "Over the following years, I improved my electronics knowledge by reading Electronics Today International magazine and by taking lots of things to bits. I enjoyed woodwork and, when I bought my first Minimoog in 1973, I turned it into a 'keytar' by transferring the keyboard into a separate case. By this time, I had also split a Hammond RT3. So, after Mark left the band, I started to think about how I could turn the huge MkII Mellotron into something more usable. It was far too cumbersome and heavy to be carried about, but it had 18 sounds on each of its manuals, whereas the M400 was limited to just three. So I set about cutting it



Photo: Richard Ecclestone



The Half'A Tron after being rescued from its shed. Note Robert Webb's self-installed half-speed switch on the left-hand side.



John Bradley, Martin Smith and Robert Webb with the pre-restoration Half'A Tron.

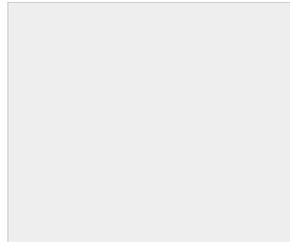


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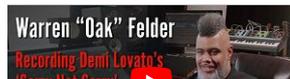
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Warren "Oak" Felder
Recording Demi Lovato's 'Cool For The Summer'

in half to create what would be, in effect, an M400 with six times as many sounds.”

Webb has since admitted that he wasn't aiming for anything pretty. He just wanted an instrument that could play his sounds without requiring four people to lift it, and it proved to be relatively straightforward to divide the MkII because, in many ways, it's already two instruments in a single case. The only major component that's common across both manuals is the capstan — the incredibly accurate stainless steel rod that pulls the tapes past the heads when you play the keys. With this sawn in half, it was possible for Webb to mount the motor and capstan, together with the left-hand keyboard and right-hand tapes in a plywood case built by a chap named Derek Edwards. To keep the weight of the new instrument down, they installed the power supply in a separate box and, while he was at it, Webb installed a new preamp and a half-speed switch so that he could play the sounds an octave lower than recorded.

The newly christened Black Melly (so-called because both plywood boxes had been painted with cheap black emulsion) was soon in use at Olympic Studios, featuring on the tracks 'Mister Meaner' and 'Three Piece Suite' that earned the band its deal with Arista Records. It subsequently featured throughout the 'Garden Shed' album released in March 1977, and on the ensuing '77/78 tour, as well as on some of the The Last Of The Jubbies sessions. I asked Webb what had happened to the right-hand half of the MkII, and he explained, "I eventually threw it on a dump. After I had transferred the left-hand side to the new case, the right-hand keyboard was still 90 percent assembled and operable. I had mounted it inside a tubular frame and had even made a fascia for it with lights, faders and switches on an aluminium plate. It just needed the power supply and capstan motor to drive it. I remember 'borrowing' these from the Black Melly at some point, and it sounded fine. But England had arrived at just the wrong time and there had been a steep decline in interest in our kind of music. The band didn't have any money or any future prospects, so we had to vacate our rented house, and the redundant right-hand section had to go. I kept the keyboard itself, and I still have this — I couldn't bear to see it trashed. But the rest ended up as a pile of scrap."

Limbo

After England disbanded in 1979, Webb found himself touring with English singer Jenny Darren. "I never considered buying a string synth", he continued "but I bought a Yamaha CS80 and this opened up lots of possibilities for brass and organ sounds and, although still heavy, was much more portable than the Mellotron. This, together with a Yamaha CP70B piano became my main keyboard and, over time, I sold all of the England-era keyboards. I sold the Mellotron to Dillon Tonkin of Quasar in 1982. We loaded it into his Mini and that was the last I saw of it for more than 20 years."

Although Martin Smith of Streetly Electronics remembers being called in the early '90s to discuss the cost of restoring the Black Melly, it had fallen into disuse and nothing more was heard of it until, in 2003, I received a call from Tonkin asking me whether I would be interested in buying a Mellotron that, with delicious irony, he was storing in his garden shed. I had a pretty good idea which instrument he was describing to me so, much intrigued, I jumped into my car and soon found myself looking at what had to be the tattiest Mellotron in existence. Edwards' case had never been pretty, and nearly three decades of scrapes and bashes (plus a fair coating of mildew or something similar) had reduced it to the point where it was never going to fit its foot into a glass slipper. But it was clearly the Black Melly which, by this time, had started to accrue its own mythology (see the 'History Is Bollocks' box), and which had been re-christened the 'HalfATron' by the enthusiasts on Andy Thompson's Yahoo 'Mellotronists' group.

A couple of hours later, I drove away with the HalfATron and its power pack in the back of my car. Of course, I tried to play it as soon as I got home. The results were horrible. The motor and capstan turned, the valves glowed and, on a few notes, a strangled fart emerged that was almost, but not quite, something that sounded completely unlike a Mellotron, but that was about all. I didn't even dare to try cycling it to a different station. Instead, I called Martin Smith and John Bradley at Streetly Electronics and told them what I had bought. They immediately offered to collect it to see whether it could be resurrected and, a few weeks later, John tried the same experiment, with similar results. But after just a few minutes of fiddling and adjustment, recognisable notes started to emerge. "Every MkII I've ever encountered," he told me, "will play to some extent, even after it's been stored in a leaky garage for decades. The worst I ever encountered was Graham Nash's black and gold MkII, which looked like it had been standing in a puddle for who knows how long. The cabinet was waterlogged and rotten, and if you pressed a key down it stayed down, but it still produced a few notes before smoke started to emerge and it died. We were even able to restore that one, and it was a fine instrument after that". Encouraged by this, I let Smith and Bradley load the HalfATron into their car and, having owned it for no more than a couple of weeks, I bade it a sad but temporary farewell.

The Rebirth Of The HalfATron

Years passed. And then many more passed. In fact, the only time that the instrument saw the light of day was when Robert Webb visited Streetly to sample some of his signature sounds for an England reunion and showcase at Soundstage Studios in Acton in 2006. But in 2013, a decade after buying the HalfATron, I received a call from Smith telling me that restoration was underway. To be fair, Streetly had been working flat out for years to satisfy the orders for their M4000 Mellotrons, and there had been no time to restore the HalfATron. But when they finally addressed it in 2012, they found that it had survived remarkably well, and they were confident that it could be renovated. Bradley's major concern was that Edwards' case couldn't be made rigid enough, and I have to admit that I found it hard to envisage the restored instrument looking as destitute and unloved as it had when I last saw it. So the idea of building a unique case identical to a MkII Mellotron, but half as wide, was born.

At this point, Bradley picks up the story. "First we removed the front panel, the keyboard, the headblock and the tapes. Robert had taken the standard right-hand tapes from the MkII and spliced in a set of Model 400 tapes with the timpani sounds that he used. We strongly discourage any splicing in a set of cycling tapes, and we would never do it ourselves because there's only ever going to be one outcome: a gentle rustle coming from the inside of the instrument and an irrevocable tangle of useless magnetic string. Amazingly, while Robert's splices showed obvious stretch marks, they still cycled and the timing still lined up when changing stations. But the HalfATron was going to be fitted with new tapes after restoration, so we removed what was in there and then looked at what we were dealing with. Quite apart from the obvious problems, all the joints in the frame had come loose, the tape separators and pinch rollers were knackered, and the heads were oxidised. This wasn't going to be an overnight job.

"First, we fixed the frame, making it square and rigid. Then we restored the heads and re-jigged a set of modern tape separators to work within the MkII frame. Having done so, we reassembled the replay mechanism with a new set of pinch rollers with aluminium spindles lubricated with Moly slip. We then made new tapes for it using genuine EMI tape. Happily,



Oak Felder - Recording Demi Lovato's 'Sorry Not Sorry'

1 month 2 weeks ago.



The head block. You can see some of Robert Webb's splices on the tapes below.



The HalfATron with its innards removed.



The newly made case, ready for lacquering.

the capstan was in excellent shape, and had a higher tolerance than we can obtain today — it's within 0.01 percent of being a perfect cylinder, which is almost unbelievable. What's more, we didn't have to replace any of the keys (although many needed straightening) and we were able to reuse all the original tape heads, so we can say that, even now, the HalfATron is still a genuine 1963 Mellotron."

The chaps at Streetly were pleased to find that one of the later serial-numbered parts (there were two, numbered #218 and #230) was an SMS2 motor control board. This had been fitted by Webb in 1976 after he mentioned to Mellotronics in London that he wanted to add a half-speed control, and replaced the less stable board used in the original MkI. The HalfATron also sported a stronger motor than it would have had when built in 1963. On the other hand, the cycling circuit and mechanics were knackered when I handed it over, so Streetly rebuilt these and replaced the original drive belt with a modern, joint-free belt. They then rebuilt the power supply and created a new loom so that everything could be mounted together in its new case, and Bradley restored the valve preamp, eventually obtaining a signal/noise ratio of 45dB, which is at the upper end of what can be obtained from any MkII Mellotron.

"The next thing," Smith continued, "was to start on the cabinet itself. Our cabinet maker made the end panels using an original MkII as a template so, if you place a MkII against the HalfATron as it is today, you'll find that they are the same shape, and built to the same physical specification."

Bradley then built the rest of the cabinet components and the control panel, and it was time to assemble it. First, they did a dry run with the unfinished cabinet to ensure that everything would later fit and work correctly. Then they dismantled it all so that they could send the wooden case components to the lacquer shop. Each part was flow-coated with six layers of polyester piano black by a specialist in restoring grand pianos, and then delivered back to the factory. Now it was time to assemble the HalfATron for real, using sash-clamps and lots of felt padding to make sure that nothing damaged its expensive finish. It was a scary moment because the case components are located using dowelling pins and then glued together, so they had just one chance to get it right. Get it wrong, and many shekels of unique one-off work would have been wasted.

Despite their concerns, everything went well and, after allowing everything to set, it was time to mount the frame. Bradley and Smith own the original lifting equipment that was used at the Streetly factory in the hey day of Mellotron production, and they used this to drop the guts of the instrument into the cabinet. This was another heart-stopping moment, but they got it in without marking the case, and then installed the reconditioned power pack, and everything else that had been restored and repainted to look as new. Finally, they re-adjusted all the heads, pads and pinch rollers in the replay mechanism, and it was time to test the HalfATron.



The tape frame undergoing restoration.

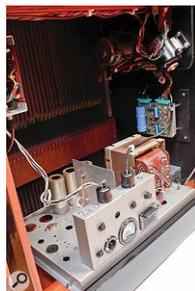
The instrument was now unrecognisable from what I had bought, but there was still no guarantee that it was going to play well, with the stations lining up perfectly, the five track selector positions working correctly, all the notes responding evenly, and all the played tapes returning quickly and quietly. But the results were exceptional. With a level keyboard and a remarkably light action for a Mellotron, the HalfATron played beautifully, with well-matched head responses, and the exact tone that Bradley and Smith had hoped for. Even the station selection worked perfectly, which isn't always the case with any cycling Mellotron.

A Dream Realised

"It's the sexiest keyboard instrument on planet Earth," Smith once told me, "but, to be honest, we're going to be glad to see the back of it. We've been walking on eggshells around it for the past few weeks, terrified of bumping against it and marking the finish. It's a beautiful instrument, and it deserves to be played." So, in January 2014, the chaps returned the HalfATron to me. Its restoration had been a labour of love, but it had been worth it. Although it's a single-manual instrument, it's far from being an M400 with 18 sounds rather than just three; the character of a MkII Mellotron is quite different from that of more modern models — harsher, more strident, more commanding within a mix — and the HalfATron has that in spades. I suggested to them that it was a unique instrument, and they agreed. I also suggested that nothing like it had ever existed before, and that was when the strange, and previously untold, story of the 1965 'SingleTron' emerged.

Amazingly, the destruction of the single-manual 'Tron wasn't a unique event, because Clouston later ordered the destruction of a set of M300 recordings that he didn't like, commanding Les Bradley (John's father, and Managing Director of Streetly in the '60s, '70s and early '80s) to shove the masters and any copies into the furnace at the back of the factory. But, unlike the tapes (which nobody will ever hear) the concept of a single-manual MkII was harder to destroy, and the HalfATron is now the realisation of a dream from half a century ago. "It's exactly what my father had planned," John Bradley told me, "and I think that everyone involved in the original project would have been very proud of it. But rather than being the prototype of a commercial model, the HalfATron is a unique machine, a genuine one-off, and will probably remain so forever."

Thanks to Robert Webb, John Bradley and Martin Smith for their help in writing this article, and to Dillon Tonkin for preserving the Black Melly in its darkest hour, when many others might have experimented to see whether it would float down the River Great Ouse.



Inside the newly refurbished HalfATron. As you can see, the power supply is now mounted internally.

Streetly Electronics: www.mellotronics.com

Robert Webb: www.gardenshedmusic.com

Station To Station

Anyone who has played an early Mellotron knows that changing stations — that is, scrolling the tapes from one set of three sounds to a different set — isn't always quick or reliable. Robert Webb explained to me how this influenced the music he wrote.

"The MkII had to roll all 35 tapes on each manual through many feet to find a new set of sounds. The mechanism was incredibly clever, allowing the instrument to find the rough position of the station quite quickly, and then it would go through a 'jittery period' while the front of each sound was lined up accurately under the heads. During that period, there was a bar that rose under the keyboard to prevent the notes being played (and the tapes being shredded) and only when everything was in position did the bar drop and an orange light come on to signal that the Mellotron was ready to play. Finding a new station would usually take around 20 seconds, but if the sensor didn't find the location point during the 'jittery period', the Mellotron rolled all the way to the end of Station 6, and then rewound and tried to find the wanted Station again. If it didn't find it this time, it would go all the way back to the start of Station 1 and then try again, by which time significantly more than a minute had elapsed. Because we always played and recorded 'live', there were times when I would initiate the change of Station and keep an eye on the Mellotron to see whether its orange



light had come on yet. On one occasion it didn't, and when we arrived at the Mellotron part, the drums crashed, the guitars stopped, and... nothing. 'Sorry everyone', I said, 'there's no Mellotron at the mo... aah, there it is. OK, play on'. This only happened once, but I was always worried that it would happen again, so I thought to write England's music so that I could avoid changing Station on any given track. It's so different nowadays; we have millions of sounds instantly available. But back then, the restrictions of the instruments shaped the music. At least, that's the way it was for me."

Voicing The Half'A Tron

Once restoration of the Half'A Tron was underway, Martin Smith asked me which sounds I would like it to host. I chose 18, starting with my favourites from my first MkI Mellotron, and added classic sounds from both the M300 and M400 in what I thought was a sensible arrangement. To my surprise, he told me that it was a very poor selection and, if I'm honest, he found it straightforward to justify this. Although there are three tracks on each 3/8-inch tape under each of their keys, MkIs and MkIIs are able to move the heads halfway between them so that five sounds are possible on each station: sound A alone, an A+B mix, sound B alone, a B+C mix, and sound C alone. Although I was aware of this, I had chosen my selection of voices without considering how adjacent ones would mix together, and some of the combinations would have been awful, perhaps because they didn't complement each other, or because they would have been marginally out of tune with each other, resulting in a horrible, discordant mess. So Smith suggested the following set, which is what the Half'A Tron now contains.

Track A	Track B	Track C
MkII Flute	MkII Violins	Cello
String Section	Eight-Voice Choir	St John's Wood Organ
Male Voice Choir	Birotron Choir	Combined Choir
Cyndee Lee Viola	M300A Violins	Watcher Mix
MkII Brass	Two Tenor/Two Alto Sax	MkII Smooth Organ
Bass Clarinet	Oboe	Bass Flute

"History Is Bollocks"

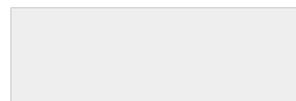
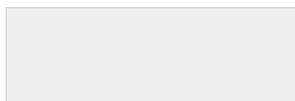
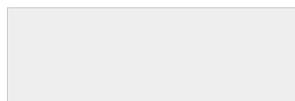
There are many rumours concerning the Half'A Tron, ranging from "it languished unloved for decades" (which is close to the truth) to "it was the Mellotron that Court Of The Crimson King and Watcher Of The Skies were recorded on" (which is certainly not). "It's the same old story", Martin Smith told me. "A few instruments whose owners claim that they were John Lennon's Mellotron have been sold in recent years, and none of those were the original, because we know where that is. We get told lots of stories about Mellotrons, and we've found that you can't take any of them at face value. George Harrison once told us, 'History is bollocks. If you weren't there, you don't know', and that's proved to be true time and again where Mellotrons are concerned." So how do we know which Mellotron was chopped to create the Half'A Tron? The original serial number would have been stamped on its right-hand frame member, which was cast away when Webb chopped it. Fortunately, its serial number had been re-stamped onto the central bearing block when the instrument was upgraded to MkII specification in 1965 so, when Streetly stripped it down, they were able to confirm that — despite the additions of the later SMS2 board and motor at some point in its history — the Half'A Tron is indeed #109.

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