D.I.Y. Remote Control for Otari MX5050BII-2

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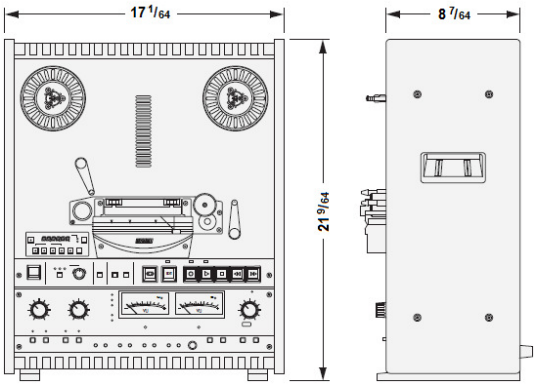


Early this year I came in possession of two Otari MX5050BII-2 reel to reel recorders decommissioned from a broadcast facility. The MX5050BII was used in many radio and television facilities and is designed for 1/4" wide tape, 2 channel analog record and playback.

One popular feature was an optimized four-head design which allowed playback of both ½ track and ¼ track reel to reel tapes. The machine has erase, record, and playback heads for ½ track stereo recording and playback, but under the head cover is a slide switch that selects between the ½ track playback head and a ¼ track head.

The machine has the ability to be remote controlled using an optional Otari CR-705A remote control box. This box mirrors the function of the front panel. Unfortunately, the remote control was not included, and the cost of the box can be cost prohibitive. I've seen them on Ebay for as little as $100 for a real beat up box and $375 for one with minor cosmetic damage[i]. For nearly six months I waited for someone to sell one that looked OK and didn't cost a lot of money. In keeping with my motto of *Quisquam dignitas effectus est dignitas super effectus*, I decided it would be best to make my own remote control. It would do exactly what the CR-705A would do but nicer.

The box must mirror the CR-705A by controlling the functions of stop, play, fast-forward, rewind, record, and provide an indication when the deck is in the record mode. It should have a cord long enough to reach the recorder from the operator's position. It should also have a mating plug which will connect to the "remote" socket on the back of the machine next to the power plug.

Some of my desires include; professional pushbutton switches which can be lighted, low profile that does not clutter the desktop, and a small control cable.

The switches I chose for the project are Veetronix Series 1 pushbutton switches[ii]. These are the switches you see on many television production and master control switchers. The caps come in colors and are roughly ¾ by ¾ inch square, with the exception of the "stop" button which is rectangular. The switch caps are also available in colors so the operator can quickly glance and know the function. For example, the record button is red, stop is yellow, play is green, and fast-forward and rewind are blue.

Each switch has the option for a LED to light the button lens. This LED is typically a high brightness white LED. It plugs into the body of the switch under the cap.

The cable I chose was SC15. It is available from Jameco Electronics[iii]. I started using this cable in the 1990s for serial connections, and I prefer it for applications such as these where I don't want a bulky cable on my desk. SC15 is a 15 conductor, 24 awg, stranded, with shield, in a round 7 mm jacket.

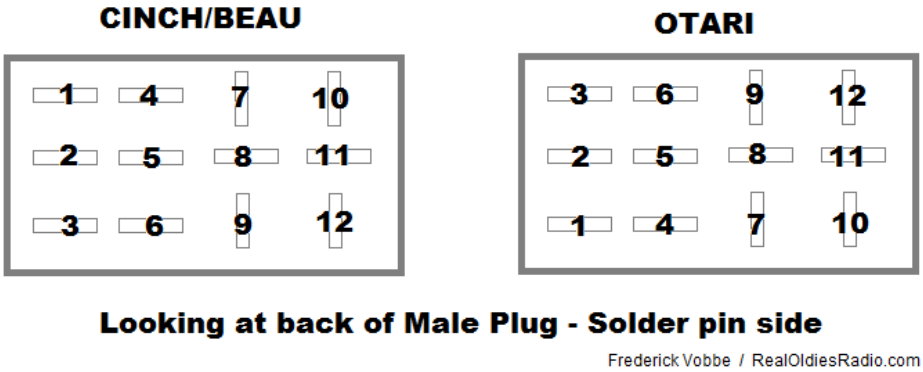
To interface to the deck a 12-pin plug is needed. NOTE: the plug which comes with CR-507A decks is not a U.S. manufacture, and therefore the pin number are different.

The plug I used was Cinch P-312-CCT available from Allied Electronics[iv]. It is Allied part number 70152854. See the table below for the differences in the Otari plug, and the standard Cinch plug.

Cinch Pin	Otari Pin	Function	Machine/Color (inside)	Action (Otari)
1	3	Play	Red	Momentary short 3 to 11
2	2	Fast-Forward	White/Blue	Momentary short 2 to 7
3	1	Rewind	White/Green	Momentary short 1 to 7
4	6	Record	White Yellow	Momentary short 6 to 7
5	5			
6	4	Stop	White/Purple	Momentary short 4 to 11
7	9			
8	8			
9	7	n/a	White/Red	Edit Brake
10	12			
11	11	DC voltage	Blue	-21 VDC
12	10	LED	Green	LED 10 to 11

After several hours of debate I had to make this unique to the MX5050BII, or generic to work on my other tape machines which include Tascam 3300SX-2T, 3440, Ampex, and others. Each machine has its own way of addressing remote control logic.

To make it generic would call for an interface to the deck which would be unique to the tape deck, while keeping the buttons the same.



[i] Prices per Ebay & Craigslist from March 2012 to January 2013. Six CR-507A sales viewed.
[ii] Veetronix Inc, 1311 W. Pacific, Lexington, NE 68850, (308) 324-6661
[iii] Jameco Electronics, 1355 Shoreway Road, Belmont, CA 94002, (650) 592-8097
[iv] Allied Electronics, 7151 Jack Newell Blvd. S., Fort Worth, TX 76118, (866) 433-5722