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# **Filmmakers Newsletter**

**CP-16/A  
PRODUCT  
REPORT**

# Product Report

These Product Reports are, insofar as we can humanly make them, the honest observations of a working photographer/cinematographer with years of well-grounded practical experience. Each piece of equipment reviewed has gone through several weeks of actual use in the field. This is not a "lab test," but rather, a report on the suitability, the quality, the handling, the reliability, and the ruggedness of each unit as it relates to the everyday needs of the filmmaker.

## The CP-16/A

by Steven T. Smith

A couple of months ago we looked at what Jim Frezzolini and his people were doing to improve the cameras used for television newsfilm. This time we are going to look at a different approach to some of the newsreel cameraman's problems from Ed DiGiulio and the people at Cinema Products in Los Angeles.

About a year and a half ago Cinema Products introduced the CP16 "light-weight professional motion picture camera." The CP16 is designed to handle both magnetic sound-on-film recording and double-system crystal sync filming. The main features of the CP16 are: its weight—15 pounds with lens and film; internal battery packs; and ease of operation. The film transport is patterned after the famous Auricon Cine-Voice movement, but the CP16's similarity to the Cine-Voice and its myriad adaptations ends there. The CP16 is a new camera from the tripod-screw up. The body has a sort of streamlined shape, its features are functional, the magazines mount on a slant rather than flat on top.

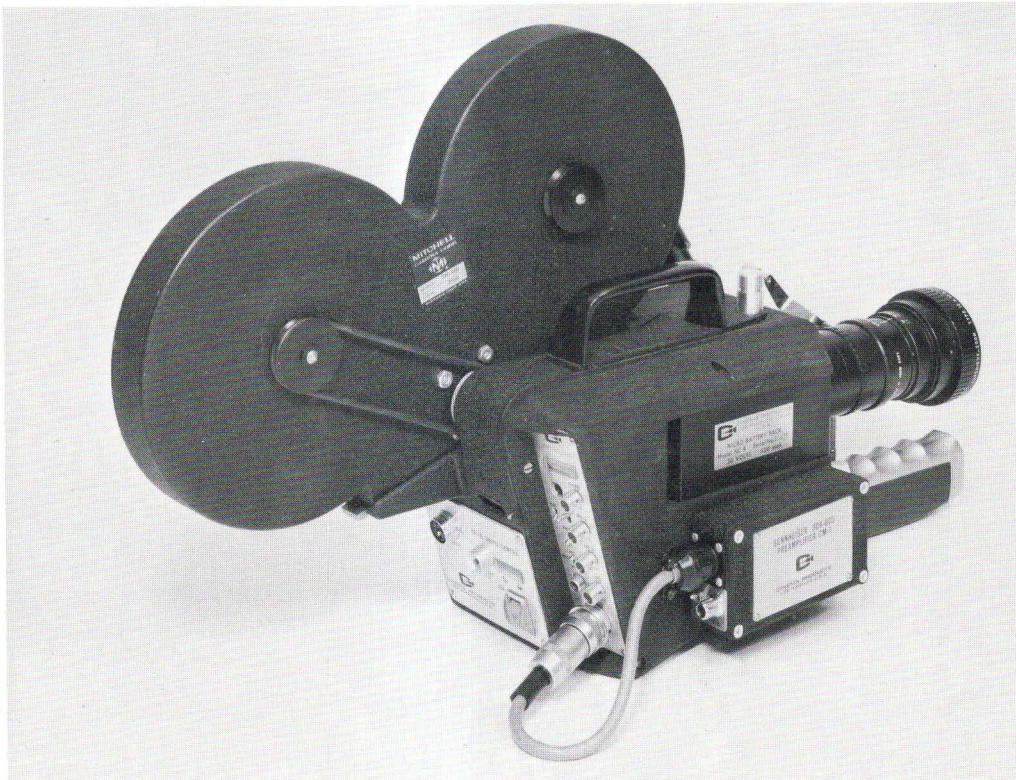
And when cameramen in the field began using CP16's,

glowing reports on its operation and dependability began to pop up with regularity. Most cameramen I have talked to about the CP16 have had nothing but good to say about it. And to me that means a lot—I put stock in what I hear from other cameramen about their equipment.

So we had the CP16 growing in popularity everyday. Then Cinema Products did the CP16 one better with the introduction last spring of the CP16/A. The "A" stands for amplifier. That amplifier is a two-channel with automatic gain control integral record/playback amplifier. And that's quite a lot! There have been amplifiers around for a number of years that would permit you to mount them to the camera for "one-man-band" use. But there has never been an SOF amplifier that was actually a part of the camera.

Bear in mind that except for the built-in amplifier the CP16 and the CP16/A are the same camera. Consider this report, then, to be a product evaluation of the CP16-CP16/A. Note: The CP16/A can revert to CP16 status by pulling off the amplifier and putting on an auxiliary side cover (this permits use of an external SOF amplifier such as the Auricon MA11). And, I am told, the CP16 can be converted to a CP16A.

The camera head is rather small—6x9x6½ inches. It weighs only ten pounds, and that's with a battery pack. The film transport is nearly identical to the Auricon's. The rollers, sprocket, and gate all seem the same, except that they are fabricated by Cinema Products. You'll notice from the photographs that the magazines (Mitchell-type) mount on a slanted plate. As near as I can figure out there are two advantages to this method: the camera balances better when hand-held; and the cameraman can see over the top of the camera (if a very short viewfinder is used, like Angenieux's "zero" one-inch finder). A super feature is the magazine mounting latch. With the flip of a finger you can pull a magazine off the CP16. No bothersome screw stuck inside the camera to fool with. Special mounting studs fit into the magazine, and all you have to do is drop the mag into the slotted plate, click it into the latch, and you're set to shoot. Very nice.



Model CM-1 Pre-Amplifier (for condenser microphones) shown mounted on CP-16/A camera (with built-in Crystasound Amplifier)

The camera has an internal gel filter slot just in front of the film gate. It has a "magnetic shield" right behind the sound head that also doubles as a holder for two gel filters. Interestingly enough many newsfilm cameramen do not utilize gel slots because they say it is too easy to forget to pull the 85 when you go inside, or whatever. If the filter is on the lens you can easily tell if it is an 85 or N3 or nothing.

The CP16 comes with an adjustable plastic handgrip on the front of the camera. The grip adjusts through an arc of 120 degrees or so. And it is also the forward Run switch. For some reason the Cinema Products people put the button at a right angle to the camera body, rather than sticking straight out. They may have had a good reason for this, but I felt it was a little awkward to use. It's a "push-on/push-off" type. The grip is pretty comfortable. The camera door is latched—none of that fooling around unscrewing the door. And it's hinged, so that when you go to fix a jam you don't have to set the camera door down in the nearest mud puddle. The lens mounting plate is another neat feature. The thread is the standard "C" type. And the Angenieux vari-focals with side-finders are standard. The "C-cup" used to mount the lens has been slotted in three places. When you thread it on to the camera body you line up a locating pin with one of these slots. This permits perfect orientation of the finder in three positions: horizontal with the lens, at a 45 degree angle, or a position in between. The lens then becomes very solidly attached to the camera, and you won't have to worry about the finder slipping down a few degrees, which tends to cause tilty pictures.

Another run switch is located on the rear of the CP16. This is a rocker-type control that works basically independently of the front switch. There is no "master" control or power switch on the CP16—which can occasionally lead to disastrous accidental turning on of the camera. The only thing you can do to prevent this is to pull the power supply out. Sure do wish there was some sort of transit power switch, say inside the film chamber, to prevent these sorts of happenings. Also at the rear is a four-digit footage counter with push-button reset—no more bothersome knob twisting to get back to "OOOO." There is, in addition, a battery check meter. And an AC

power/battery charging input. The CP16 (not A) has the familiar Auricon-type eight-pin Cannon connector back there as well.

The batteries are one of the best features of the CP16-CP16/A. The individual power packs are literally small enough to fit into a shirt pocket. They weigh only a few ounces. Yet they are rated at 20v DC and will drive the camera up to 4000 feet! The battery is encased in a smooth housing that just slides into the power receptacle on the camera's right side. To get it out you simply push a little button and slide the pack out. A battery charger and AC power supply unit comes with each camera. The charger will charge a battery that is in the camera, and another, using a separate adaptor cable. The charger operates off 115 or 230 VAC, 60 or 50 Hz and can fully recharge a battery in 14 hours. Also on the camera's right side is a carrying handle. The handle seemed pretty comfortable for those many times you have to carry the camera around from set-up to set-up.

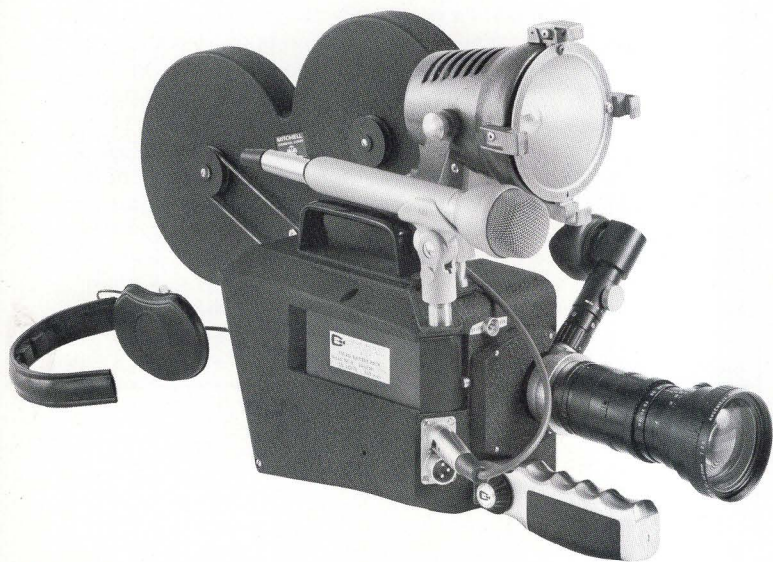
That about takes care of those aspects common to the CP16 and CP16/A. The big difference, of course, is the Crystasound recording amplifier. The amplifier is just a sort of well-designed growth on the side of the camera. It only sticks out an extra inch and a half or so. And it adds only about a pound to the overall weight of the CP16/A. The cristasound amplifier provides three recording channels. There are two 150 ohm microphone inputs. The connectors, three-pin male Cannons, are located toward the front of the camera. There is also a 600 ohm line input using an RCA phone jack. The playback channel has a jack for a 50 ohm headset. Each of these channels, including playback, has its own volume control! Also, the three inputs can be switched to an automatic gain control circuit. A small VU meter is provided for monitoring the sound visually. And there is a special connector at the bottom of the amplifier panel for use with the accessory mixer and other special items. The Crystasound takes its power from the camera battery. The drain is nominal, and the camera does not have to be running to power the amp. There is a switch to energize the AGC circuit. This circuit is very effective. Various other switches turn the bias to the record head on and switch the amp over to external control.

For the one-man-band this CP16/A is hard to beat. It's all one unit. A lone cameraman can pick up the camera, a cable, and a microphone and be off. He needs nothing more. For the great number of television news operations that do not use soundmen the CP16/A could prove to be a panacea. Nothing could be simpler to use, nor more dependable. And even some stations within the top-ten markets, where soundmen have nearly always been used, are considering switching to the CP16/A and using soundmen only on especially important jobs.

If you want to use a soundman, or want to extend the versatility of the CP16/A still further, you can add the external 6C mixer. This is quite an incredible little tool. The mixer is about a third smaller than the Auricon MA-11 amplifier. Yet this 6C mixer gives you four 150 ohm dynamic microphone inputs, a separate channel for a condenser microphone, and a line input—six channels!! It takes its power from the camera, and hence has no heavy battery to drag around. There is a headset jack. A VU meter. Automatic Gain Control. A line output for feeding a signal to a cassette tape recorder. And there's even a Master Volume control.

You couldn't ask for more. But Cinema Products gives you more. There is a switch that lets you monitor the straight line input, or automatically goes over to playback when the camera is running. There is also a swing-out "desk-stand" that cants the mixer up toward the soundman—no more propping up the amplifier with a core or a pile of old magazines. Really fantastic! Just plug the 6C into the rear of the CP16/A and you have an incredibly versatile sound mixing system for a two-man operation. Pull the plug and one person can do a lot just by himself.

But hold on! There's even more! For the one-man-band you can get an auxiliary VU meter that attaches to the front of the



camera near the viewfinder. The Crystasound's meter is on the rear and cannot be monitored during shooting by one person. So this little thing connects through the mixer socket and lets the operator glance at the sound level during shooting. There is even a little light to illuminate the VU meter when you shoot in the dark. Cinema Products also provides an audio output jack in this unit which will permit the recording of the sound signal on a regular tape recorder.

Still another accessory is the Audio Output Jack. This is a plug-like affair that goes into the mixer socket and provides an output for recording, the same as mentioned above. This dubbing can be especially useful to the reporter who wants to begin planning how to cut the news piece. He can just listen to the camera's output on his cassette recorder, and by the time he gets back to the newsroom he will be able to tell the film editor what he wants in the way of in- and out-cues.

Earlier on we mentioned the Auxiliary Side Cover. This accessory replaces the Crystasound amplifier. Should the Crystasound go bad all you need to do is pull the amplifier off and replace it with the side cover. The cover is wired to accept the battery packs, and also has the eight-pin Cannon connector for use with an external amplifier. Nice protection in case of a fault in the field. Cinema Products also sells a Microphone/Light Bracket. This tool attaches to the right side under the camera handle. It provides a removable 5/8 inch stud for mounting a microphone or a portable light. I used our sample with an Electro-Voice 635 omnidirectional microphone and got surprisingly good results. Some stations have modified the mount to accept the Sennheiser condenser shotgun mikes. This is great for one-man-band natural sound recording. And it makes the CP16/A that much easier to use. It is possible to mount a Sun-Gun onto this bracket as well.

To further extend the versatility of the Crystasound amplifier a special pre-amp for Sennheiser condenser microphones is offered. This unit attaches to the amplifier side and plugs into the mixer connection. With this pre-amp you can use a Sennheiser mike without a pre-amp or power supply of its own. And you can also use two other mikes—giving three mike inputs internal to the camera. Fantastic!

Finally, Cinema Products produces its own sound record/playback head. The model 3XL is very similar to the Auricon mag head, but it is supposed to have three times the life-expectancy of other heads. It works just the same as the Auricon head, but costs a little more. The 3XL has a frequency response plus or minus 2dB from 50 Hz to 8000Hz

I found the CP16/A easy to operate—a pleasure to use. When I was filming stories by myself I usually just took along my EV635A. What I carried into the field included the camera and a small bag with the mike, a cable, and a headset. That's a lot better than carrying two or three cases full of stuff to do the same job. If I wanted to record background sound I just clipped the microphone into the camera bracket and shot. For interviews I would set the mike up on a desk stand or just give it to the subject to hold. Flip the On switch at the back of the amplifier; go to AGC; hit the Run button, and that's all there was to it. The camera provides the straight line input until the Run switch goes, and then the camera automatically switches over to track monitor. That's a very nice feature. I rarely tried to do any manual mixing with the Crystasound—I usually let AGC do the work, and the results were very good. There seems

to be a lot of noise—hissing—when you listen through the headsets, but that noise will not transfer to the track.

My soundman really enjoyed using the 6C mixer. He liked all those channels, and all the various inputs, outputs, and such. His major complaint was that the control knobs seemed a little small and awkward to use. Which they are. They aren't like the control knobs on a Nagra or an MA-11. But they do work, and the mixer offers so much versatility it isn't worth arguing about. Anyway, my soundman has fat fingers.

The quality of the workmanship on all items tested was excellent. The design of the equipment showed a real concern for the needs of the cameraman in the field. The placement of the various camera features, the wide variety of controls and options, all show no malice and tremendous forethought. This camera was truly made FOR the cameraman. It can be considered the cameraman's camera. In all honesty I could find very little to complain about on the CP16/A. It was the sort of camera I would build for myself. In its own way it is revolutionary—I hope a precursor of things to come from other people.

The CP16/A was designed with handholding in mind, and before I forget, I would like to say something about this. The camera balances very nicely. The base sits on your shoulder, you hold the grip with your right hand, focus/zoom with your left, and your eye fits snugly into the short finder. This is great. But I felt a little uncomfortable holding the camera this way. I tried holding onto the camera handle. I tried shifting the base side-to-side, front-to-rear on my shoulder, but still I felt uncomfortable. Part of this feeling may come from the fact that I was not used to the CP16. If I had been able to use it daily for a month or so I suppose I could get used to shoulder-bracing it. But I'm used to using a body brace and that's all there is to it. I feel I can get an incredibly steady shot with a brace, although I do pretty well without. And mind you, I do my double-system with an Eclair, so I know all about handholding. Still, I was tempted to put the CP16 on a brace. Blasphemy perhaps, but I was tempted. I didn't, but others have. Ron Eveslage, a San Francisco freelance, put his CP16 on what looks like a modified Photo-Sonics brace. Any time you go to a brace you give up some of your freedom of movement, but you do stand to gain a little steadiness.

Anyhow—I really like the CP16. It is an exceptional camera system that really deserves the popularity it has gained. For single-system this camera would be hard to beat—especially for small market stations. And even for double-system crystal sync shooting the CP16 makes a very viable alternative to the much more expensive Eclairs and Arris. Considering the versatility of the CP16/A the price is modest. Compare it to the limited capability of the various SOF cameras with fixed lenses and 200 foot capacity and the CP16 comes out way on top.

Although this is a fantastic camera, the folks at Cinema Products have something more in store for us—a reflex 16mm camera based on the CP16 design with a pin-registered movement! It will cost about \$1000 more than the present camera, but it will also accept all sorts of lenses. (Didja ever wish you could shoot an SOF sequence with an Angenieux 5.9mm? Now you'll be able to.) And the camera will be American-made. Just think—an American camera with the versatility to match foreign cameras at a competitive price!

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