Ka Huaka'i o Ka F65

Photos for this article by Vincent Ricafort and Bruce Omori

Ruben Carrillo: Journey of the F65

Ruben Carillo is a producer, director, cameraman in Hawaii with a long list of credits on National TV, commercials, documentaries, 60 Minutes, "The Amazing Race," Hawaii 5-0, and *the award-winning "Mana I Ka Leo: Power of the Voice." He recently wrapped the first documentary shot on a new Sony F65 in 4K with Leica Primes in Hawaii. "Ka Huaka'i o Ka F65" means "Journey of the F65."*

Jon Fauer: How did this production start?

Ruben Carrillo: Hawaii is such a beautiful place. I've been here for 17 years. It just felt like it was time to capture the islands with aerials. This is the most beautiful place in the world I've ever been.

Tell us about your background and your career.

I come from an artist family. I was raised in Santa Cruz, California. Both of my parents went to UCLA Art School and that's where they met. I was always around the arts. I couldn't draw, I couldn't paint, but I was a very visual person, and I really enjoyed taking photographs when I was younger.

When I was senior in high school, they had a video class. That was my major in college at San Francisco State. In my second year of college, I got a job at an NBC station, and within about six months I was one of the news photographers there. I basically did that for the next seven years. I worked in San Jose, San Francisco, and then finally in Los Angeles.

Hawaii always intrigued me. So I started a company in 1996 here in Hawaii and ran it. Liquid Planet Studios became one of the largest production companies in the state, if not the largest, and I ran that up until December of last year. I was also co-founder of a company about five years ago called Four Miles to do Hawaiian cultural productions—and that's actually the company that produced this F65 job. I have two partners in 4 Miles: Dawn Kaniaupio, who was integral to this project. And Dirk Fukushima.

What really drove this project from the beginning was my love and respect for the host culture that I live in: The Hawaiians. It was their "oli" (chant) and "hula" (dance) that actually inspired and was the foundation for what we ended up shooting. Both oli and hula are derived from and mimic the movements of the earth and the sounds of nature. It was the Hawaiians' way of emulating and communicating with the world around them and each other. We planned and designed the shoot around the chant and hula that we filmed on the cliffs.

A very well-respected Kumu (teacher) and sister of the woman whom we filmed on the cliffs writes it like this: "Hula begins with the movement of the sun, the wind, the sounds, the growth on the land and the ocean. Hula is ritualized as it personifies nature. Like nature, hula is rhythmic, inclusive, transformative, physical, spiritual, healing, and above all, it is Hawaiian."

I gave Band Pro a call. I asked if they could lend me a camera. Nir Reches said they could send an F35. Three days later I got a phone call from Amnon Band asking me why I am shooting with the F35. And I'm like, "Well, I would have preferred the F65, but..."

Then Amnon said, "Hang on. Nir told me what you are doing. We just got the first Sony F65 cameras. I'm going to send you our top F65 guy, Randy Wedick, and an F65 for a week. I'll make sure that all the gear is first class. We'll send you a complete set of Leica Primes, Anton/Bauer batteries, Leader monitors, OConnor head and legs, and anything you need. Let us show this at NAB, and I'll finance the aerials and the production. Let's make history together. No one ever shot F65 4K Raw of Hawaii."

Planning was critical. We mapped out locations. We scouted volcanoes and lava flows. It was really not much of a budget, so we were restrained by that, and we put together a small crew, booked the helicopter and pilots.

If you as an operator have a relationship with the pilot, that's what enables you to get great shots. I've flown with Calvin Dorn for many years. I trust and respect him. His company, Paradise Helicopters, has quite a few helicopters on the Big Island and one on Oahu. Our other pilot at Paradise was Josh Lange. Both of them were incredible and did amazing things on the shoot, and enabled us to get some fascinating footage.

That was a Jet Ranger?

We used the Bell 407 with a Tyler nose mount.

What were the most memorable moments of the production?

One of the memorable scenes was on Kauai. In the afternoon, all of a sudden it started to clear up. There was a high overcast; the sun was under the clouds and we were flying along the Na Pali coastline. There are incredible valleys and waterfalls.

Just as we were coming around, the sun dropped below the cloud layer and it was sunset time, golden orange light, an incredible moment. The next morning we ended up shooting more of the Na Pali coastline and Waimea Valley Canyon, which is known as the Grand Canyon of the Pacific. There was a low fog layer. We saw dramatic red earth mixed in with bright green and white water. It really should look incredible in 4K.

At one point we had to clean the lens, and our pilot landed on a peak with maybe a 20-foot circumference. We were standing on the top of a spire in the middle of a spectacular Grand Canyon type setting, and Randy Wedick was cleaning the lens, and I couldn't believe it. I was out there trying to take pictures of him and what he was doing, but it was like a surreal setting in an amazing place that you could never get to unless you just plopped down in a little helicopter.

What lenses did you use mostly on the aerial nose mount?

Primarily the Leica 18 mm Summilux-C. We frequently used the 21 mm. And in other locations, we went through the entire package.

And how did you protect the front element, or didn't you?

Randy had a clear filter that clipped on. We treated the filter with Rain-X to repel rain and condensation.

What was the percentage of aerials to regular footage?

90 to 10 percent. About 16 hours of air time. I believe by the time we finished the production we had shot somewhere between six and seven Terabytes combined aerials and on-the-ground.

What were your camera settings?

Camera settings: ISO was 800. Shooting 16-bit Raw. 24 fps. We did some different shutter angles, but the majority of it was 180°.

Did you ever shoot wide open?

Yes. Most of the late evening and night shots were wide open. The Waikiki shots and a lot of the lava scenes were wide open. What

Photo by Bruce Omori

really helped us out a lot was the T1.4 speed of the Leica lenses. Also, because the Leicas are all the same size and have similar focus and iris rings—when we were changing lenses we didn't have to waste a lot of time trying to readjust things. It was quick and it was easy. We could easily change any lens in the set in no time at all. They were very lightweight so they didn't add a lot of weight on the nosemount.

Slow Motion?

We did a little overcranking, not a lot, but I shot some surf where we overcranked at 60 frames.

How was it working with the F65 camera system?

I found it very easy to learn, very easy for me to jump from the F900 to the F65, and be able to manipulate it the way I wanted. I felt very comfortable with the camera right away. It did not take long at all for me to feel at home with it. I was kind of blown away by the portability. The camera is around 12 pounds, and, you can build it up to a film style digital cinema feature film package or, as we did, configure it documentary style for a small crew because it is so light.

The amazing thing is the way that you were running and gunning with a small crew.

I think I would do one thing differently next time: there should be a dedicated digital media manager. Randy did a fantastic job, he is an amazing technician, knows the F65 inside and out, and managed the data perfectly. But he was also focus puller, loader, camera technician, data wrangler, and much more. He must have slept 36 hours straight when he got back to LA. We had long days from 4 am to midnight. At the end of each day, he had to go back and do all the media management. Which was probably too much for us to ask one person and too precarious for all of us because, if you lose that footage you're not going to get it back. But he never lost any footage, never complained, and did a great job.

But you were on a limited budget.

Because we did so much work by helicopter, that limited the number of crew. We were packed inside the helicopter with all the gear basically shoved all around us. We had to take everything with us, and it was completely packed. I don't think you could have put another thing in the helicopter.

What kind of "look" were you attempting with this camera?

We did low light scenes flying over Waikiki at dusk, and then as it started to get dark we kept rolling just to see how the camera handled in low light and with city lights. It really looked incredible, and we were really able to shoot in very minimal light.

We flew over the lava fields when the light was getting really low. Red hot lava is pretty bright. The dark lava dries really quickly, hardens, and gets dark black. With the contrast between those two, I think we pushed the limits of the dynamic range of the F65. Happy to say it held really nicely. We have a sunrise with dancers and chanting. It's a beautiful aerial shot flying over black cliffs with the dancers in the foreground.

We had an extraordinary opportunity to bring the camera and lenses into places few people have seen. Being able to take the F65 and challenge it in many ways was exciting, and I look forward to seeing our project on the big screen.

Photos by Vincent Ricafort
and Bruce Omori

Wedick on Workflow, Aerials, F65

Above: Laptop, SR-R4, eSATA drives.
Below: SR-R4 Control on a laptop, showing MEM Control window with picture preview, files on the SR Memory card, selects to transfer.

Jon Fauer: Describe how you wrangled data on this documentary-style production.

Randy Wedick: It was mostly file transfer. We shot, filled up the SRMemory cards, and had enough cards to keep going. I kept the "exposed" cards in their cases, inside a Ziploc bag that went into a Pelican case. Each evening, after a typical 16 hour day, we'd arrive at a new hotel. I would set up 3 items: A Sony SR-PC4 with an eSATA card, a G-RAID 6 TB external storage array with eSATA drives, and a laptop.

You attach the SR-PC4 directly to an external hard drive via eSATA or Firewire. The computer is really just the interface to control the SR-PC4, and connects via Ethernet cable. Insert an "exposed" SRMemory card in the SR-PC4. Open a web browser like Safari, Firefox, or Internet Explorer on your laptop, and type in the address of the SR-PC4. The web page comes up, and you see what is on the card. The laptop shows playback controls and your connected drives. It allows you to browse those drives, create new folders, select those folders and then export the contents of the cards. The file transfer happens between the SR-PC4 and the hard drive. The files do not pass through your laptop.

The SR-PC4 takes all the 4K Raw files, with audio and metadata, and moves them into an MXF file which is not necessarily the MXF file that you're used to using in your Avid. It's just a convenient container that contains all those elements, recorded separately on the SRMemory card. The SR-PC4 has the hardware and software to combine all that. With eSATA I was getting very close to real time file transfer.

Compare your workflow to how a big feature would do it.

The F65 Raw workflow for the camera, by the time this article goes to publication, should include at number of choices: Colorfront On-Set Dailies, Baselight, Assimilate Scratch, YoDailies by YoYotta, Blackmagic Design's DaVinci Resolve, and Codex. You're able to use the free stuff to do file transfers and viewing. But to actually do big level transcodes, create dailies, and do the finishing you need to use one of these programs.

With a small setup, I was doing commando team size workflow. In addition to pulling focus and prepping the camera and handling the recording, I was also doing all the downloads. So I wanted to keep my task as error-proof as possible. Because I would be doing these downloads at the end of these extremely strenuous physical days myself, I wanted to keep it really simple.

But, on a larger shoot you're going to need a near-set or on-set cart that can generate dailies and push them out to a variety of deliverables.

What's going to be cool, and I really hope to accomplish this in our NAB booth, is a demonstration of the workflow itself. We'll have Leica lenses on the F65. We'll be shooting footage on the floor, taking the footage out of the camera and over to the cart. We'll transfer the files into a server and then emulate on-set backups with a Codex Vault. We'll be doing post production backups using the Colorfront system, creating dailies, and doing live color correction in 4K. We'll send that out to iPads all around. Hopefully we're going to have a full 4K ecosystem in our booth that will replicate the workflow for almost any production, from run-and-gun to high-end feature.

If you don't have a Vault, how are people going to make backups and clones?

You transfer the footage onto a Mac formatted drive. Then you clone that drive the way you clone any files. As soon as they become MXF files, they're just files. You can do almost anything—from drag and drop to a fully managed multi-destination LTO and hard drive situation.

I heard that in F65 workflow you don't format external drives as journaled—you should format the Mac drive unjournaled.

Yes, journaling the drives causes an incompatibility with the Linux HFS+ driver. You should turn the journaling off, which is an option in the Mac Disk Utility when you format a drive.

Is this drive readable both by Mac and PC?

You can use MacDrive to read and write a Mac formatted drive on a PC. (From www.mediafour.com)

How were the ergonomics of the camera? I saw pictures of you carrying it around all over the cliffs and the lava flows.

It is no heavier than a film production camera. I believe it's slightly lighter weight than an Alexa. We had the F65 outfitted with a Leica Summilux-C prime, mattebox, BP-9 bridgeplate for 15mm rods (BP-8 uses 19mm rods), cmotion wireless focus system, an OConnor 2060 with baby legs or regular legs, an Anton/Bauer Cine VCLX 14.4/28 V battery, and Leader monitors. I had no problem picking this thing up and carrying it wherever I wanted to go. We were on some pretty tricky terrain. We had a really small crew—usually just 2 or 3 people. The other primes went into a backpack, with lens cleaning supplies, tools, and spare SRMemory cards.

How did the camera hold up?

Luckily we were able to push the F65 to its limits. Ruben is a very creative person, and always wanted to keep pushing the envelope.

We wrapped the camera in Saran Wrap, except the air intake and exhaust vents. On top of the Saran Wrap we used pantyhose to keep it secure. Underneath, it got kind of kinky—we used panty liners over the camera's air intake vents. As you may know from the commercial, they are both breathable and absorbent.

I think the camera took a bit of a beating from helicopter vibrations. It never gave up on us during the shoot. It never issued us any strange humidity or temperature warnings even though we subjected it to hot lava flows that were about 6 feet away from the camera. It felt like we opened up an oven in a professional kitchen. The ambient temperature had to be somewhere around 150 degrees in some of those areas. But we were only exposing it to those kind of temperatures for under 10 minutes at a time.

I saw pictures of you fastidiously cleaning lenses. Did you use optical flats when you were doing aerials?

There was a lot of cleaning optical flats. They got dirty because we were shooting from a nose mount. I had to clean or replace them constantly. But better to clean a removable, coated optical flat costing a couple hundred dollars than to replace the damaged front element of a $20,000 Leica lens.

I saw pictures of you wearing a garbage bag.

We were up on an active lava flow. We thought that there was a chance that it might rain. This was before we had the Elaine

Fasula Ombre.US custom F65 rain cover that I just looked at today. We were on pioneering ground here with this camera, the early stages, so we had to improvise.

What other wish list bubbles would you have now?

It would have been nice to have a few more crew members, and a bit more sleep.

What were the high points for you with this shoot?

The first high point was right when I landed. This was a foreshadowing of what the pace of the production would be. I flew from LA, was picked up at the airport, within 60 minutes we had the camera fully outfitted and mounted on a Tyler Nose Mount, and we were flying above Honolulu. That pace kept up basically until we landed back in Honolulu a week later.

There were many other incredible moments. Flying over the top of a crater was incredible. On Kauai, the garden island we got a break in the rain. Right at magic hour, when the sun was setting. It was the Na Pali coastline, one of the quintessential Hawaiian nature images of all time. The coastline was just rippling with waterfalls on one side, and there was a crater of an extinct volcano. There were rivulets and waterfalls around us.

What was your setup in the helicopter?

Ruben used a Leader 5380 Monitor in the front seat of the helicopter for viewing. I used the LV5330 in the back to set exposure and also to check focus. For exposure, I used the Multi function, which I used to view the picture and a waveform overlaid on that. Sometimes I used the Cinezone function, which is a false color exposure. To check focus, I used the Picture function, which features a 1 to 1 zoom. Occasionally, we loaded the helicopter up to the point where I couldn't see the person next to me. At the most we had five people plus a ton of gear.

In summary?

Another last thing that is really neat. Our producer, Dawn Kaniaupio was the location producer for the UHD shoot for NHK a couple of years ago. So she had previous experience working with an 8K camera. That 8K camera was the size of a horse. And the workflow for it was the size of three 18 wheeler trailers. So here we were, several years later, with an 8K camera (shooting 4K images) that fits into a carry-on bag. And the workflow fits into a Pelican case.

SONY F65 Jumpstart

M-SHUTTER-E:
Buttons for Mechanical or Electronic Shutter. Mechanical eliminates "jello" effects and works from 1-60 fps. Electronic shutter works from 1-120 fps. Use the M Button to stop the mechanical shutter from spinning when checking the gate... um...sensor.

Status Display. (Sony calls this the Subdisplay. In this example, we are shooting at:
23.98 fps (progressive format)
180° shutter
ND Clear: No behind-the-lens filter
800 EI (ISO, ASA, Sensitivity)
6.2E: At 800 EI, we get 6.2 stops of highlight latitude
3200K: color temperature
S-Log LUT viewing in finder and on monitors

ASSIGN 1-4. User assignable buttons. The defaults for 1-3 are good:
1 Mag: Magnifies image in finder and via SDI OUT by 2x, 4x or Off with each press of the button.
2 Mag Position: Positions the magnified image to 1 of 9 areas. Each press of the button the selection from top left to lower right.
3 Hi/Lo: Each press of the button toggles to check highlights, shadows and normal.

VF Diopter Adjustment Ring

SD/Memory Stick slot for future capability to save and recall camera setup files, LUT's, etc.

SR-R4 Memory Recorder Remote Control Panel

REC: Starts and Stops recording to the onboard SR-R4. If the button's LED indicator flashes red, you probably have a low battery.

LOCK: Prevents recording—a good setting when the producer or director wants to look through the viewfinder.

LOCK: This slide switch locks out all buttons except REC and PAGE. This helps prevent accidental changes of camera settings—for example, when moving camera positions.

Step 1. SETTING: This is the first button you push (for 1 second or longer) to enter and navigate the Menus. This button would be labeled "MENU" on Alexa, C300, or Epic.

PAGE and BACK are self-explanatory menu page navigation buttons. Currently there are 3 pages.

Step 2. MENU SEL/ENTER: rotate the dial to navigate; push to select/enter.

VF DISPLAY: Toggles Viewfinder information text on and off.

VF MENU: The bigger, more complete menu. Push this button to display Viewing settings and many other choices in the Viewfinder and on a monitor. Navigate with the MENU SET/ENTER button.

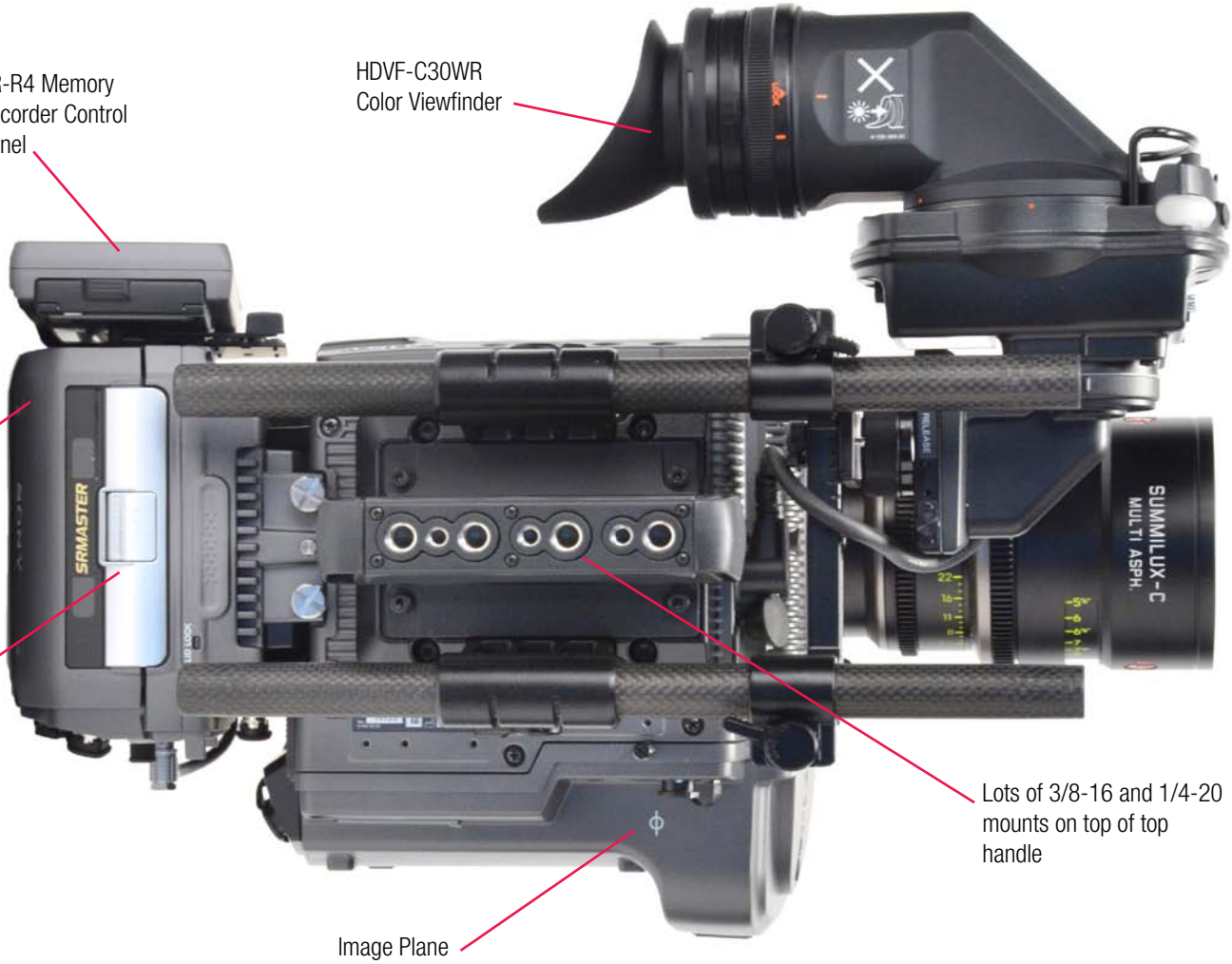
SONY F65

The Control Panel may tickle your ear in handheld mode.

To put it on the camera right side, attach Sony's SRK-CP1 Optional Control Panel Bracket to the right side with 4 M3x5 screws.

Sony's Battery Pack Adapter attaches to the back of the SR-R4 with 4 screws.

There's no direct electrical connection, so on-board batteries power the camera with a cable.


SR-R4 Memory Recorder Control Panel
HDVF-C30WR Color Viewfinder
SR-R4 Memory Recorder
Push button and open lid to load an SRMemory card
Lots of 3/8-16 and 1/4-20 mounts on top of top handle
Image Plane
SRMASTER
SUMMILUX-C
MULTI ASPH.


SR-R4 Recorder cooling fan vents: do not obstruct
Two 3/8 - 16 threaded mounting sockets and locating holes—ARRI specs
MADE IN GERMANY

F65 Nuts and Bolts

Base

The base shoulder pad is attached with 3 non-captive Phillips screws. Unscrew them to reposition the pad in the forward or rear set of mounting holes for better balance on your shoulder.

Use wrench stored in Plate to remove Bottom Mounting Plate. It is attached to camera base with non-captive 3mm headed screws.

Additional 3/8-16 threaded mounting holes lie beneath—though they don't appear as strong.

Removing Top Handle and Viewfinder Assembly

Top handle and viewfinder assembly is removed with 3mm hex screws

Sony F65 Weight and Size

Weight of Body only: 11 lb
Body and Base: 11.5 lb
Body, top handles, Viewfinder Bracket: 14 lb
Body, top handles, Viewfinder Bracket, Viewfinder: 16 lb
Body, top handles, VF bracket, VF, SR-R4 and SRMemory Card: 20.5 lb

LWH of F65 body is 10" x 9" x 8"

PL Mount. Lens data pins for /i and LDS are not yet enabled

Vent intake: Do not block

Flange focal depth: 52 mm

Flange to cover glass: 31.5 mm

(Angenieux Optimo DP rear element protrudes 31 mm beyond lens flange—so it is safe here.)

Sensor is 1.89:1 (24.7 x 13.1)

20 million pixels, 18.7 used for imaging. The others are for black balance, image correction, and output functions.

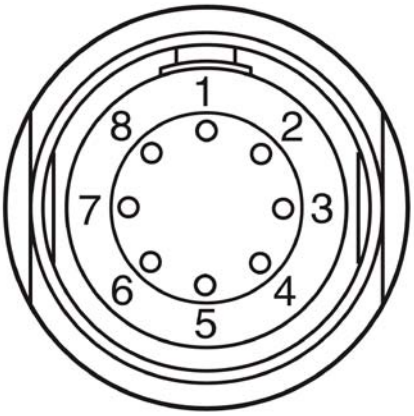
14 stops of exposure latitude

EI: 200 - 3200

Color temperature: 3200, 4300, 5500 °K

1-60 fps in full 4K. 60-120 fps coming soon

F65 cameras with mechanical shutters have behind-the-lens filters: Clear, ND.9, 1.2, 1.5, 1.8 (3, 4, 5, 6 stops)



Wiring of Main Power Connector—3 pairs for 12 V DC (needed to share all that amperage over 3 strands of cable) and 1 pair for 24 V DC accessories. Needless to say, this is a good reason to convert your accessories back to 12 volts.

1 Gnd for 12 V
2 Gnd for 12 V
3 Gnd for 24 V
4 +20 to +30 V for accessories
5 +10.5 to +17 V for camera
6 +10.5 to +17 V for camera
7 +10.5 to +17 V for camera
8 Gnd for 12 V

SR-R4 Memory Recorder on F65

To make the SR-R4 home screen's display more readable when the Control Panel is mounted vertically:

Simultaneously hold the BACK, FUNCTION and HOME buttons.

The text is now level.

The blue bar below the 16-track audio display tells us the unit is in Playback Mode.

The F65 cannot record when the SR-R4 is in Playback Mode. Seamless Record/Playback mode will be available in May. Until then, to quickly jump from Playback to Record Mode:

Push the VIDEO button.

Rotate the SELECT/ENTER dial to toggle between Record and Play.

Press the SELECT/ENTER dial to confirm.

RED means you are now in Record mode.

The KEY INHIBIT slide switch locks out buttons and controls—preventing accidental mayhem during shooting.

For Diagnostics, simultaneously hold the HOME and SYSTEM buttons.

Power: 11 - 17 V DC

Amps (F65 RAW 23.98p recording)
F65 camera only: 65 W
SR-R4 recorder only: 37 W
Total: 102 W

Credits for this article.
Thanks to Band Pro's Amnon Band, Seth Emmons, Randy Wedick, and Jeff Cree, for the tutorials, facilities, equipment, lights and sweeps for these product shots. For technical advice, thanks to Denny Clairmont, Michael Condon, Brett Reed at Clairmont Camera; and to Otto Nemenz, Ryan Sherican, Dan Lopez, Fritz Heinzle at Otto Nemenz International. At Sony: Peter Crithary and the Sony staff who checked, advised and reviewed.

The F65 and its on-board SR-R4 deck record to iPhone-sized SRMemory Cards. They come in orange, blue and black trim to identify the different write speeds and proportional prices. Rrecording time is for F65 RAW at 23.98 fps.

Orange=1.5 Gbps	
256 GB	Does not record
RAWBlue=2.5 Gbps	
512 GB	29 mins
1 TB	59 mins
Black=5.5 Gbps	
256 GB	14 mins
512 GB	29 mins
1 TB	59 mins

Black 5.5 Gbps SRMemory cards will record 120 fps F65RAW when available: 5 minutes on the 256 GB card, 11 minutes on the 512 GB card, and 23 minutes on the 1 TB card.

In comparison, HDCAM SR tape records at 440 and 880 Mbps and SxS cards can record short bursts of up to 1.2 Gbps.

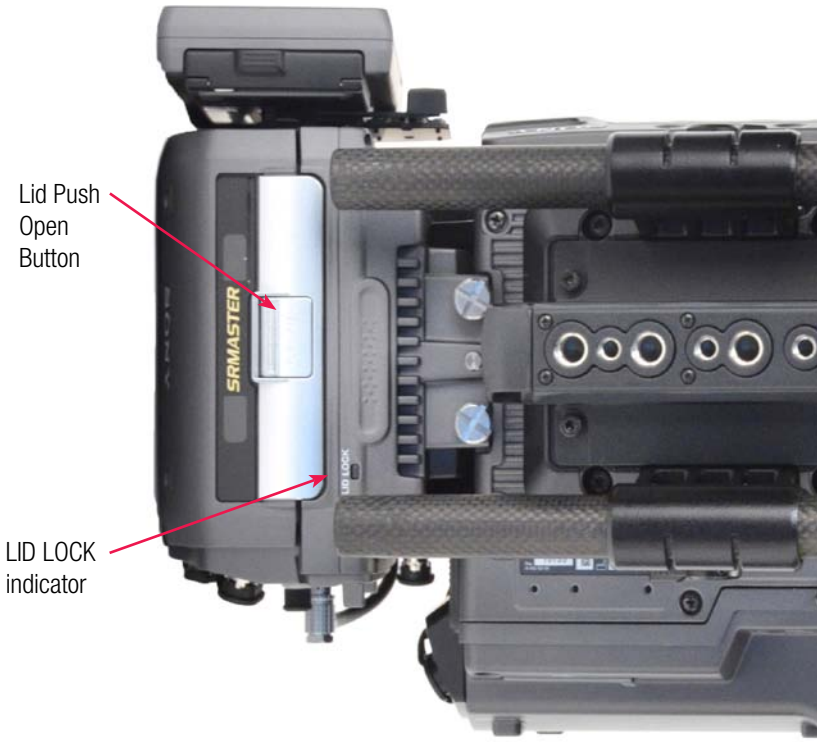
When opening or closing the SRMemory Card door on the SR-R4, be sure the LID LOCK indicator is not glowing orange.

Orange means an SRMemory Card is mounted inside and the door is locked. Press the EJECT (blue button on the Control Panel) to unmount the card. Think of it as like unmounting an External Hard Drive on your Mac by dragging it to the Trash.

Once unmounted, the LID LOCK indicator will no longer glow and you can press the silver Lid Open/Close button to open the hatch.

If you lose power, eject the card but do not use it until you have performed an auto-recovery with the SR-PC4, SR-PC5, or R1000.

You could do an auto-recovery on the SR-R4, but it takes much longer.



SRMemory cards go in with the writing on top and facing the rear

Plugging Preston and Accessories into F65

There are many ways to connect Preston Cinema's MDR (Motor Driver) to a Sony F65 Camera. How you do it depends on whether you are powering the F65 with 12 volt (actually 14.4) or 24 volt (28.8) batteries. The F65 and its onboard SR-R4 Memory Recorder use 12 volts, so any 24 volt accessories require additional power.

The F65's DC IN connector has 3 pairs of pins to supply 12 volts to the camera, and one pair to pass 24 volts through to the 3-pin (ARRI RS Style) 24V4A receptacle to power accessories.

Block batteries that supply both 12V and 24V to power both the camera and accessories would be the most flexible option.

For handheld, a single 12V onboard battery will power the camera and pass 12 volts to the 11-pin Fischer (DC OUT 12V/4A) receptacle. The downside to this approach is that the additional current drain from the accessories will shorten the run-time of the camera battery.

Adding a second onboard battery for powering the usual crate-load of accessories has the advantage of allowing high current draw without the possibility of affecting the camera power. Some rental houses are looking into adding breakout boxes with Lemo 2-pin connectors for 12 volt accessories, and others are thinking of a 12 V to 24 VDC up-converter box with 3-pin Fischer connectors.

Preston's MDR has separate receptacles for R/S (Run/Stop) and Power. The F65 has Run/Stop control available from either the 24V/4A 3-pin or the 12-pin Hirose LENS receptacle. Cable numbers below are Preston parts.

Here are some choices to use separate cables for power and R/S:

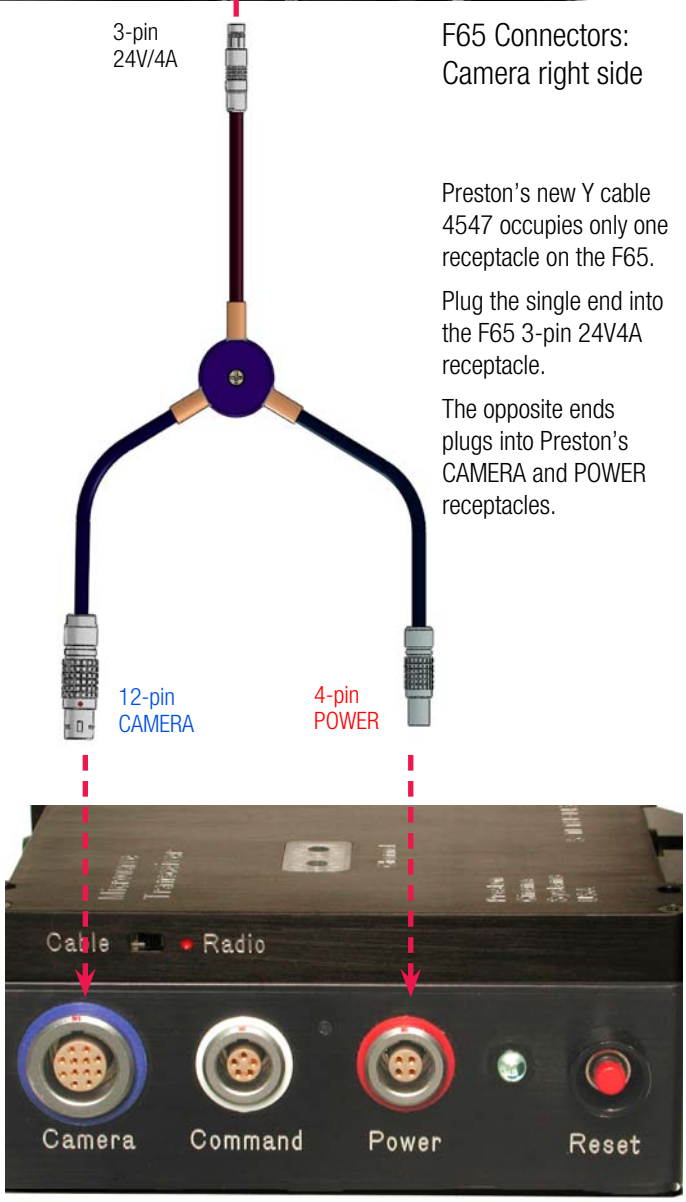
1. F65 3-pin 24V/4A to Preston MDR POWER: Cable 4499.
   Preston MDR CAMERA R/S to F65 12-pin LENS: Cable 4521.
2. F65 DC OUT 12V/4A to Preston MDR POWER: Cable 4474.
   Preston MDR CAMERA R/S to F65 3-pin 24V/4A: Cable 4521.

Since many rental houses are building electrical breakout boxes to power accessories (but not add R/S) with multiple 3-pin 24V/4A receptacles, here's a third cable combo:

3. AKS Box 3-pin 24V/4A to Preston MDR Power: Cable 4521.
   Preston MDR CAMERA R/S to F65 24V/4A: Cable 4499.

Finally, the most elegant approach is a single Y-cable. It takes up only one receptacle on the camera.

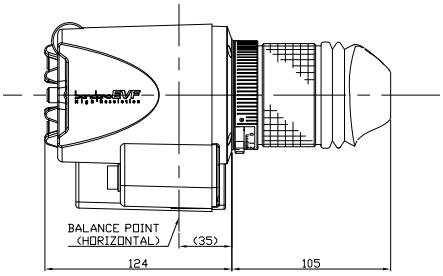
4. Preston MDR CAMERA R/S and POWER to F65 3-pin 24V/4A receptacle: Cable 4547 does it all.



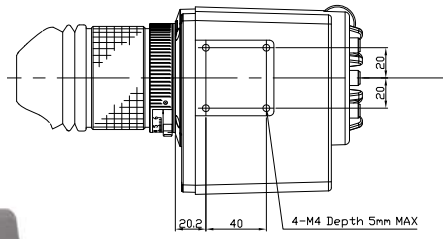
Preston Microwave Receiver
Motor Driver (MDR)

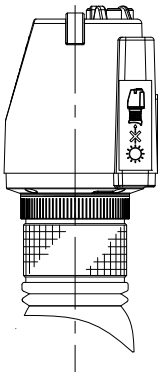
Band Pro Astro NewFinder

Band Pro Astro NewFinder shown here on a Sony F35—but even more at home on Sony F65 cameras



Diopter adjustment ring





Groucho Marx once asked, "Who are you going to believe, me or your own eyes?"

Too many camera operators are asking lately, "Who am I going to believe, my frustratingly fuzzy electronic viewfinder or the chorus from video village telling me the shot is out of focus?"

Camera operators, cinematographers and camera crews may rejoice when they see the new Band Pro Astro NewFinder at NAB. It has the potential to be one of the most celebrated products of the show, and if preliminary discussions, specs, pictures, descriptions, and eternal hope are commensurate with the real deal's abilities, the NewFinder could be a breakthrough in the evolution of electronic viewfinders that surpass optical finders.

Why all the gushing pre-praise? (Careful, Fauer, you haven't even looked through it yet.)

Confidence is high. The NewFinder promises cinematic bliss for the camera department. It is a full resolution HD 1920 x 1080 LCOS display that could be 35% sharper than anything else out there. With its analog connection, you get less than a frame of latency (delay). The eyepiece has an adjustable +2 to -2 diopter ring, and the industry-standard eyecup can be swapped with 3rd party heated eyepieces.

Band Pro will have a custom NewFinder bracket for the Sony F65.

NewFinder adjusts the framelines according to the sensor size of the camera. This modifies the markers so they are correct based on the sensor aspect ration. For example, Sony F65 is 1.88:1 (1.896:1??). Sony F35 is 1.77:1 1.78:1????. What about 4:3 Arri Studio and M?

Brightness, contrast, peaking and peaking color settings can be assigned to one of the three assignable buttons. This can be helpful when the director takes a look and cranks up the brightness. With a touch of a button, the camera operator is back to familiar territory.

Smooth Mode uses double sampling to remove jitter while panning. There are plans to provide electronic anamorphic desqueeze.

The NewFinder works with 10–32 VDC.

Band Pro worked with Astro on the engineering, concept, measurements, and user interface design. Band Pro is the exclusive distributor in the Americas, Europe and most of the world except Japan and parts of Asia. See the NewFinder at Band Pro NAB Booth C10308.

LCOS	**Resolution**	**1920 x 1080**
	Vertical frequency	40Hz full color, 120Hz B/W
Input	Format	1920x1080/50i, 59.94i, 60i
		1920x1080/29.97p/sF, 30p/sF
		1920x1080/23.98p/sF, 24p/sF, 25p/sF
		1280x720/50p, 59.94p, 60p
	HD-SDI (DF-3511-xx)	Compliant to SMPTE 292M
	HD Analog (DF-3511-xx)	Y(1.0Vp-p on sync) PbPr(0.7Vp-p), dedicated 20-pin connector
Adjustment	Brightness	Rotary
	Contrast	Rotary
	Peaking	Rotary
Menu	Flip Screen	On/Off
	Display	Full/Under
	Mono	On/Off
	Mag	On/Off
	Smooth	On/Off
	Marker	On/Off
	Sensor Aspect	1.77/1.88
	Marker Select	Center/ Frame/1.78:1/2.35:1/1.85:1
	Mask	ON/OFF
	Backlight	1 TO 5
	Tally	ON/OFF
	Peaking	ON/OFF
	Peaking Color	Yellow/Red/White
	Memory	Load/Save/Delete
	Info Select	Tally
	Factory Default	Yes/Cancel
General	Power voltage	DC 10 to 32V
	Power watts	5 W
	Operating temperature	0 to 40°
	Operating humidity	30 to 80%RH
	Dimensions (WxHxD)	103 x 125 x 230 mm
	Weights	Approx. 1.3Kg

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