

# ***ANALOG DEVICES***

***Video-based***

***Distributor Training***

## **“RESCUE: DSP”**

***FIFTH DRAFT***

***(DSP5.SCR)***

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## Production Notes

Location: service station just outside of downtown San Diego.

## Interior Set-ups

### Waiting Room

Cindy leads Rich into waiting room

Rich pulls phone out of briefcase

Two cellular calls

Rich moves into airconditioned room

Page two call three

### Office

Move from waiting room to Cindy's office

Rich plays at computer

Cell Call??

### Garage Bay

Cindy Reaction Shots

Work on Car

Several Cindy trips from garage to waiting

room

Run to phone (where? Office?)

Rescue squad jacket (optional)

### Rich's car

Rich at wheel driving.

## Exterior Set-ups

Service Station establishing shot

Service Station exterior

Car trouble pull-up

Cindy Drives Car to Service Bay

Possible Rich cell call

Possible Heart attack

Ambulance Arrival

Heart Monitor hook-up

Cindy move to car for tapeless tape recorder

Thank you sequence with deliver of radar  
detector

Ambulance against general street background

Host Stand-up

## Interviews

Rich (suitable office atmosphere--Cindy's office?)

Cindy (in garage bay or outside with station in the  
background)

Rapid sequence of tight shots from the program indicating stress and tension.

**Music:**  
Fast dramatic upbeat music in imitation of all "reality" shows.

1

**Superimpose title:**

**Music:**

**"Rescue: DSP"**

Fade out

2

Fade in:  
Ambulance parked on a suburban highway. Our Narrator, not quite a William Shatner Look-a-like, walks around the ambulance.

**Narrator:**

Today, our story takes us to one of the thousands of small service stations found throughout this country.

Framed wide at first to establish the ambulance, then tighter.

It's a tale of Rich, a businessman who cut things a bit too close and put his life in jeopardy when a temperamental car kept him from an important meeting.

**It's also a tale of a business owner  
and good mechanic who,  
fortunately for Rich, was also an  
EMT.**

**3**

3  
Narrator holds up a DSP.  
CU DSP.

None of what you are about to see here would have been possible without Analog Devices' DSPs.

*(Maybe a music accent here).*

4  
Narrator on camera

DSP solutions are becoming more and more popular. Silicon costs are down. Software and hardware tools are both inexpensive and easy to use. No longer is DSP the esoteric, private domain of those who design specialized signal processing systems.

Today, DSP opportunities are open to analog and digital designers everywhere.

5

In this program, you'll see how Rich benefited from his mechanic's quick reaction during a life threatening emergency. But, more important, you'll also see how both Rich and Cindy benefited from Analog Devices market leadership in fixed and floating point DSPs.

6

Superimpose title again: RESCUE: DSP

Don't go away.

**Music Sting:**

7

Fade out.

8

Fade in to a wide shot of Cindy's service station. There are gas pumps and at least two lifts within two bays in the garage.

**Music:**

Covers this establishing sequence.

9

**Cindy (Mechanic)- Voice over**



***pictures:***

I knew owning my own service station would be tough, you know, long hours, weekends, difficult customers, but I never dreamed I would be in the predicament I faced with Rich. It was a real shock. A real test of my skills.

10

Typical gas station activity at the gas pumps. Attendants are washing windshields and pumping gas. During the voice-over we concentrate on station owner Cindy, as she gets coffee and settles at a desk with a manual..	The day started OK, we had good morning traffic, people dropped their cars off on time. I even had a few moments to have some coffee and read the Manual for the DSP-based engine analyzer I was thinking of buying.  I was probably sipping my coffee and learning about the ADSP 2105 in the engine analyzer at about the same time that Rich was first getting into trouble.
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11

Rich, the businessman on camera in close-up	<b>Rich:</b> I thought I had things timed perfectly. Get in at 7:15, pick up the rental car by 8:00, start the two hour drive to the customer, and
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make the meeting by 10:30.

Plenty of time. I didn't count on a bum rental car.

12

Rich at the wheel driving and smiling. Then, when the car acts up, his eyes widen in disbelief and a look of horror comes over his face.

**Rich:** *Voice over pictures*

You know how these things go.

Nothing happens until your miles away from the rental car office. I was miles away from my customer too. The car started to act up, bucking and skipping. I was furious. I barely made it into Cindy's gas station.

13

Rich's car pulls up to Cindy's garage. Rich explains the problem to Cindy. Although we hear pieces of the natural sound, the story is told by the voice over narration.

**Cindy:** *Voice over pictures*

Rich was so upset he could hardly describe the problem. The car was running unevenly, losing power. He wanted a quick fix so he could get back on the road. I was

kicking myself for not buying that engine analyzer last week. With that ADSP 2105 13 MHz speed, 1K word on-chip program memory RAM, and 512 word of on-chip Data memory, I'd track the problem down in no time. Without it, I knew that it would take time to track down the problem. I got Rich into the waiting room where I tried to calm him down, but he was really upset. Not at me, but at the rental company. I knew I had to work fast.

14 Rich in the waiting room, opens his briefcase and pulls out a cellular telephone

**Narrator:**  
Rich tried to reach his customer by telephone, which wasn't a problem because his cellular telephone is designed around the Analog

Devices ADSP2171. At 33 mips, it has the speed you need for high performance communications applications. It also offers very low power modes to extend battery life. Rick would need extended battery life today. He could only leave a message describing his situation, but wasn't sure his customer would get the message in time. Unfortunately, this didn't make him feel much better.

15

Cindy on camera  
in close-up

**Cindy: On Camera:**

After he made that call, he seemed even more agitated. I knew the telephone was working all right, because it's got the ADSP2171, so I figured either he didn't get through or got some bad news. I

knew I had to do something fast.

16

Cindy walks from service area to waiting room and talks to Rich.

The move to her office and sit at her computer.

**Cindy:** *Voice over pictures.*

First, I gave him an update. I was tracking down some possible causes of his trouble.

Unfortunately, I didn't have anything solid yet. Then, since I could tell that this guy had something to do with computers, I invited him into my office and showed him the new videogame I installed on the office computer.

17

Rich on-camera

**Rich:**

Not only was Cindy a good mechanic, she was also a pretty good psychologist. She knew I was upset and somehow figured that she could distract me with new

technology. She was right.

18

Rich sitting at  
Cindy's computer.

**Rich:** Voice over pictures.  
The game was great. Her system  
was screaming. I was surprised  
that Cindy had a system powerful  
as this in a service station. The  
sound was incredible.

19

Rich sitting at the  
computer playing  
the game

**Narrator:**  
The sound board that effectively  
distracted Rich and allowed Cindy  
additional time to diagnose the  
car's problem is designed around  
the ADSP2115. With two serial  
ports, three external interrupts,  
modified Harvard architecture, and  
20 MIPS, the 2115 is an ideal  
choice for consumer applications  
like this.

20

Rich Sitting at the  
computer. He  
checks his pager

**Effect:** Pager beeping

21

Cindy Checks her  
pager

22

Rich reads his  
pager and goes to  
his cellular  
telephone

**Cindy:** *Voice over pictures.*

I was almost hoping that it was my  
rescue squad pager that went off.

Rich and I both have pagers with  
the ADSP2103. It only has 65

Move to the  
waiting area.

milliwatts of typical active power  
consumption at 3.3 volts, and it's  
great for pagers. Rich was up in a  
flash and on the cellular phone  
again

23

Rich Paces after  
the telephone call.

**Rich:** *Voice over pictures*

The news wasn't good. My  
customer had called the home  
office and demanded to know why



Rich looks back to the office and sees the computer he left to make this call.

my company was having trouble sending a sales rep to a sales call.

Now everyone was angry. I saw the big account drifting slowly out of my reach. After that call, I was sure I'd never have a ADSP2115 based sound board as slick as the one in Cindy's garage. It was humiliating.

24

Cindy On-Camera.

We will also shoot Cindy working on the car in the garage to cover this section or provide cutaways.

**Cindy:**

There I was, trying to work on his car, and all I could see was him pacing in the office. The sweat was pouring out of him. I knew I couldn't solve his business problems, and I was beginning to wonder whether I'd be able to fix his car problem. I wanted that engine analyzer. The electrical

system seemed OK, and the air filter was relatively new. I was about to take a look at the fuel filter. I needed time. I had to do something to make him more comfortable.

25

Cindy moving from the garage to the waiting room. She turns up the air conditioner.

As part of this sequence, Cindy fetches Rich and guides him into the cooler environment at the end of Rich's call.

**Cindy:** *Voice over pictures.*

The only thing I could think of was to turn the air conditioner up. I knew my new air conditioner was up to the task of cooling Rich down. After all its motor is controlled with Analog Devices' low cost, high performance ADSP2105. The 2105's zero overhead looping and circular buffering results in the most efficient operation without extra

programming. This air conditioner wasn't going to quit anytime soon.

26

Cindy talks to Rich then returns to the garage.

**Narrator:** *Voice over pictures.*

After cooling Rich off, Cindy had to get back to work. She was just hoping Rich would stay calm enough to let her find the problem and finish the job.

Tight shots of page number two and call number three

It was at that moment when Rich's pager alerted him to another call and more bad news. As much as Cindy wanted to rip the cellular telephone from Rich's grasp, she couldn't bring herself to do it. Had she done it, it might have saved her a good deal of trouble later.

27

Cindy watches as Rich makes another call. Then back to Rich and

**Cindy:** *Voice over pictures:*

I was trying to work on his car, but

then tight reaction  
shot when Rich  
falls.

I couldn't help watching Rich again. He was so upset. I didn't know who he was talking to, but it was a bad scene. Even with the ADSP2105 working hard to cool him off, beads of sweat stood out on his forehead. Then, while I was watching, he took a few steps forward, grasped his chest and fell to the ground. It was like watching slow-motion.

28

Cindy rushes over to Rich and grabs the cell phone from his hands and dials.

**Narrator:**

Fortunately for Rich, Cindy was a certified EMT and worked for her community's Rescue Squad. She put in a call to 911, described the situation and went to work immediately.

29

Cindy starting CPR

**Cindy: *Voice over pictures:***

Everything changed instantly. In a moment, I went from fixing Rich's car to fixing Rich. I just had to keep him going until my friends at the squad arrived.

30

CU pager  
CU Phone

While I was working on Rich, my ADSP2103 pager went off to notify me of the rescue call I just made. It was like: 'Thanks. I know!' Then, right after the page went off,

my phone started ringing. The telephone had been quiet all morning. Great timing.

31

31  
CU Answering Machine.  
Fortunately, I had a digital tapeless answering machine to take over while I was struggling to keep Rich alive. The ADSP2181 in the answering machine would carefully preserve all my messages in digital memory until I finished working on Rich. The ADSP2181 has a large on-chip memory and can efficiently execute complex speech compression algorithms to store messages.

32  
Rescue Squad pulls up.  
**Narrator:**  
Four minutes later Cindy's Rescue squad arrived. Although Rich's heart had stopped, Cindy kept enough blood circulating to give Rich a chance at survival. The

team hooked up the heart monitor.  
Inside the heart monitor is the  
ADSP 2101 that can process a  
huge amount of data efficiently.  
The monitor confirmed Rich's heart  
attack.

33



33

After a few minutes of teamwork they were able to get Rich's heart going again. Once he was stabilized, they moved him onto a stretcher.

34

Various close-ups of Cindy as she works with the team on Rich.

**Cindy:** *voice over pictures*

I was so relieved when the heart monitor showed that his heart was beating again. He started to regain consciousness Thank God for the ADSP 2101.

35

Medium Shot  
Cindy and team

They were about to move him to the ambulance when he reached out to me. When I got close, he asked me to get the tapeless tape recorder from his car. He wanted to dictate some final instructions.

- 36 Tracking shot as Cindy moves to the car. She expresses surprise at the correct moment. As I headed over to his car, I was thinking about our team effort to save Rich and how important timing is to everything we do. That's when it hit me. Timing. That was the problem with Rich's car. It was the automatic timing advance. Well, at least the car wouldn't have to be towed.
- 37 Close on Cindy and Rich. **Narrator:** Cindy gave Rich the tapeless tape recorder and leaned close to hear Rich's final instructions. Of course she knew that the low cost and powerful ADSP 2115 wouldn't miss a word, but she knew he might need someone to verify his words.
- 38 CU as Rich **Rich:** *Voice over pictures.*

dictates the deal into the tapeless tape recorder.

**ADD SPECIFICS  
HERE**

Show Rich giving hand signals to Cindy.

When I was out, I felt as if I were traveling down a long tunnel.

There was a bright light at the end.

As I got closer, It looked like a large illuminated billboard. I

looked up and saw--written in huge letters--exactly what we needed to do to close the deal. That was it.

That's what the customer wanted.

I dictated the points into the recorder and asked Cindy through crude sign language to call my office and have them fax the new offer and my proposal directly to the customer.

39

Cindy on camera

**Cindy:** *(on camera)*

So here I was, expecting this guy to record his last will and testament, and he goes and

dictates an interoffice memo. I couldn't believe it. He also asked me to make sure I took his radar detector out of the rental. It seemed a silly request at the time. After all, we didn't know if he would make it. First, though, we got him in the ambulance and on his way to the hospital. When I picked up his radar detector, I knew immediately why he mentioned it. He had a sophisticated, high-performance model designed around the ADSP 2115.

40

Rich at station  
after his ordeal.  
He thanks Cindy.

**Narrator:**

Rich survived his ordeal,  
recovered, and visited her in a free  
rental car to pick up his Radar

Detector and thank her personally. Rich was in a great mood in spite of his ordeal. Thanks to Cindy and his last bit of dictation, he had closed the biggest deal of his life.

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Recapitulation of scenes from earlier in the program.

Cindy will never forget that day.

Analog Devices' Digital Signal Processors played a key role both keeping her business going and keeping Rich in touch.

Analog Devices' products were also there when Rich almost slipped out of touch entirely.

These products are selected for so many rugged and critical applications because, as Cindy

**and Rich know, you can count on  
them!**

**42**

42  
Narrator walking in front of ambulances      **Narrator:** *on camera*  
Join us next time, when we begin a new exploration into the role Analog Devices' DSPs play in the lives of ordinary people who find themselves in extraordinary circumstances. See you then.

43  
**Closing titles and credits**      **Music:**

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